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# **STUDY OF FEES FOR GRAZING LIVESTOCK ON FEDERAL LANDS**



**A Report From  
The Secretary of the Interior  
and**



**The Secretary of Agriculture**

**October 21, 1977**

**United States  
Department of  
Agriculture**



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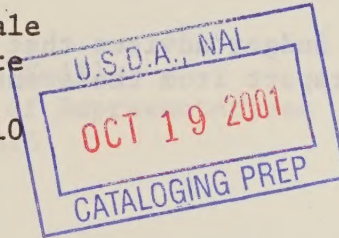
DEPARTMENT OF AGRICULTURE

OFFICE OF THE SECRETARY

WASHINGTON, D. C. 20250

October 20 1977

Honorable Walter Mondale  
President of the Senate  
United States Senate  
Washington, D.C. 20510



Dear Mr. President:

The Department of Agriculture and the Department of the Interior are pleased to submit to the Congress this report on fees for livestock grazing on Federal lands in the western States. This report and our recommendations are required by the Federal Land Policy and Management Act of 1976. We have fully and carefully examined each of the elements required by the Act, as well as many additional factors relevant to the subject.

Our recommendations are explained in detail in the accompanying report. In summary, the recommendations include: (a) continued use of the 1966 base fair market value of \$1.23 per animal unit month; (b) continued use of the private grazing land rental rate as a basis for annual adjustments of fair market value; (c) the adjustment of grazing fees from current levels to fair market value with a 25 percent limit on the annual increase; (d) once grazing fees are at the fair market value level, the amount of change in any one year will be limited to a plus or minus 12 percent of the fee charged the previous year; (e) under specified conditions, establish a fee for yearlings; and (f) continued review and refinement of data used to determine annual change in grazing fees.

This report has been prepared following significant public involvement efforts during which comments were received at eight public meetings, as well as written comments submitted to the Departments. These comments and statements were reviewed, evaluated, and used in the preparation of our report and recommendations.

The report reaches firm conclusions and makes specific recommendations, but to allow for initial Congressional understanding of the report, no immediate rulemaking will be issued to carry out the recommendations. Rather, proposed rules will be issued no sooner than the date that Congress recesses, and the 90 day period for comment on any proposed rules will extend well into the beginning of the next session. As a result, we hope to afford Congress an opportunity for immediate understanding of the report, and a period both at home and back in session before any final rulemaking is concluded. Early publication will enable the Forest Service and Bureau of Land Management opportunity to issue billings and authorize grazing for the 1978 grazing season in an orderly manner. It is also important that the permittees have as much time as

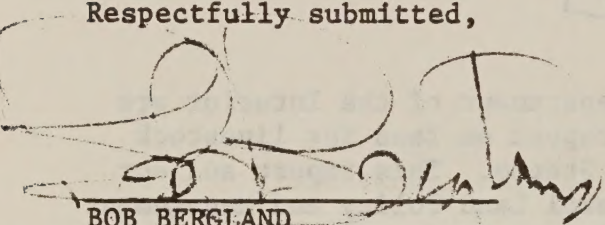
Honorable Walter Mondale

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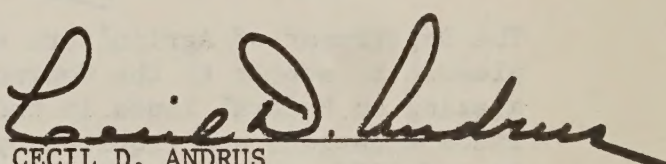
possible available to them before payment of fees and grazing begins in 1978.

The Office of Management and Budget advises that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Respectfully submitted,



BOB BERGLAND  
Secretary of Agriculture



CECIL D. ANDRUS  
Secretary of the Interior



# United States Department of the Interior

OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20240

Honorable Thomas P. O'Neill  
Speaker of the House of Representatives  
Washington, D.C. 20515

October 20 1977

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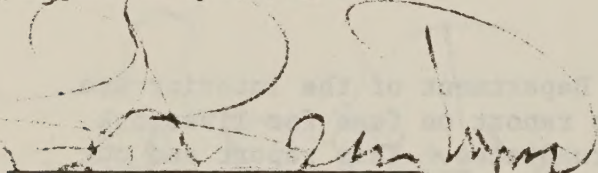
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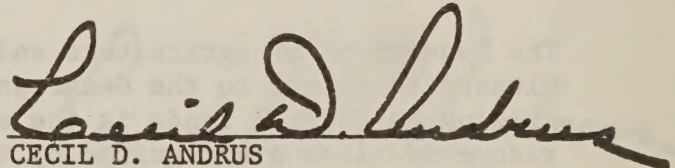
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BOB BERGLAND  
Secretary of Agriculture



CECIL D. ANDRUS  
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# STUDY OF

## FEES

### for

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### on

## FEDERAL LANDS

### A Report from

The Secretary of Agriculture

and

The Secretary of the Interior

21 October 1977

Revised March 7, 1947

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The Office of Management and Administration, U.S. Department of the Interior,  
has approved this document for publication and distribution.

Respectfully submitted,

WALTER H. HARRIS

*[Handwritten signature]*  
Director, Office of Management and Administration

A Report From

The Secretary of Agriculture

and

The Secretary of the Interior

October 1947

## EXECUTIVE SUMMARY

This report was prepared in response to Section 401(a), the Federal Land Policy and Management Act of October 21, 1976. It directs the Secretary of Agriculture and the Secretary of the Interior to jointly conduct a study to determine the value of grazing with a view to establishing a fee which is equitable to the United States and to holders of grazing permits and leases. The Assistant Secretary of the Interior and the Assistant Secretary of Agriculture directed the organization of a Grazing Fee Task Force to prepare the "Report of the Secretaries." The report includes the history of grazing fees, discussion of issues related to fees, presentation of alternative fee determination procedures, outlines opportunities for further analysis, research or testing, and the Secretaries' recommendations and conclusions.

The recommendations of the Secretary of Agriculture and the Secretary of the Interior are an endorsement of the principles of the current (1969) fee system, with modifications. The recommendations include: (1) continuation of private rental rate data to compute annual fair market value (FMV) adjustments; (2) the adjustment of fees to FMV, subject only to a provision limiting annual fee changes to 25 percent of the previous year; (3) after fair market value is reached, a 12-percent limitation on annual fee increases or decreases; (4) a limited variable fee provision, and (5) continued study and refinement of data used in the determination of fees.

These recommendations are based on the collection of fair market value as the basic policy for setting grazing fees on public lands. They are consistent with long-standing Federal Executive policy as well as the policy statement in the Federal Land Policy and Management Act of 1976 on the collection of fair market value.

Seven basic alternative procedures for determining fees on public lands were considered: (1) the current (1969) fee system; (2) a modification of the 1969 fee system, recommended as the 1978 Public Land Fee System; (3) American National Cattlemen's Association (now the National Cattlemen's Association) proposal; (4) House Interior Committee proposal; (5) Technical Committee (1976) proposal; (6) American Farm Bureau Federation 1977 proposal; and (7) competitive bidding. The proposals considered and rejected have deficiencies which make them less suitable than the procedure recommended.

The factors of cost of production, differences in forage values, equity, and reasonableness have been carefully considered throughout the preparation of these recommendations.

A distinction has been made between the collection of fees for grazing use of public lands, and the economic and drought-related problems of the livestock industry. The adjustment of grazing fees for public land permittees as a small segment of the livestock industry is not an appropriate means of assistance to the western livestock producers.

The inclusion of permit value as a nonfee cost in the calculation of the base fee is not recommended as it is inconsistent with the policy of collecting fair market value. Reduction of fees by inclusion of permit value, which has been derived from past low fees, would guarantee that future fees remain below fair market value and that equity to the general public and to other livestock producers would not be achieved.

Several variable fee proposals were considered. These proposals would require different fees for different situations based on factors such as: forage quality and quantity, season of use, size of animals, pounds of animal gain, topography, and range improvement costs. Most of the variable fee options explored are measured or valued by physical characteristics that do not measure or have a direct correlation with market (economic) values.

Under the recommended 1978 Public Land Fee System, there would be, in 1978, a single fee of \$1.89 per animal unit month for all livestock grazing on BLM and FS-administered lands included in the Act. The grazing fee would be significantly higher under the current regulations with average fees on National Forests at \$2.15 and at \$2.09 for BLM if the recommended system is not adopted. Those permittees who graze livestock on National Forests and whose fees are below \$1.51 in 1977 will be subject to the 25-percent limitation and will have 1978 fees of \$1.81 to \$1.88 per animal unit month.

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## CHAPTER 1

### INTRODUCTION

#### THE FEDERAL LAND POLICY AND MANAGEMENT ACT

The Federal Land Policy and Management Act of October 21, 1976, (P.L. 94-579 (90 Stat. 2772)) requires the preparation of a study and report on grazing fees. Section 401(a) of Title IV, Range Management, reads as follows:

Sec. 401. (a). The Secretary of Agriculture and the Secretary of the Interior shall jointly cause to be conducted a study to determine the value of grazing on the lands under their jurisdiction in the eleven Western States with a view to establishing a fee to be charged for domestic livestock grazing on such lands which is equitable to the United States and to the holders of grazing permits and leases on such lands. In making such study, the Secretaries shall take into consideration the costs of production normally associated with domestic livestock grazing in the eleven Western States, differences in forage values, and such other factors as may relate to the reasonableness of such fees. The Secretaries shall report the result of such study to the Congress not later than 1 year from and after the date of approval of this Act, together with recommendations to implement a reasonable grazing fee schedule based upon such study. If the report required herein has not been submitted to the Congress within 1 year after the date of approval of this Act, the grazing fee charged then in effect shall not be altered and shall remain the same until such report has been submitted to the Congress. Neither Secretary shall increase the grazing fee in the 1977 grazing year.

#### PROCEDURE

##### Establishment of Task Force

In response to the Federal Land Policy and Management Act of 1976 (FLPMA) the Bureau of Land Management (BLM), Department of the Interior (USDI), and the Forest Service (FS), Department of Agriculture (USDA), jointly established a Task Force to study fees for grazing livestock on Federal lands administered by the two agencies, and to prepare the report and recommendations. An announcement of the establishment of this Task Force was published as follows in the Federal Register of February 4, 1977:

## Charter of Grazing Fee Task Force

In conjunction with Section 401(a) of Pub. L. 94-579, a joint Bureau of Land Management and Forest Service Grazing Fee Task Force, will prepare the "Report of the Secretaries" for submission to the Congress on or before October 21, 1977.

### Task Force staff.

#### Co-chairman:

William L. Evans, Director of Range Management,  
Forest Service, Department of Agriculture.  
Kay W. Wilkes, Chief, Division of Range, Bureau of  
Land Management, Department of the Interior.

#### Members:

Melvin D. Bellinger, Forest Service.  
Ronald J. Younger, Bureau of Land Management.

#### Consultant:

Economic Research Service, Department of Agriculture.

## Statement of Authority

Section 401(a) of the Federal Land Policy and Management Act of 1976 (Pub. L. 94-579), directs the Secretary of Agriculture and the Secretary of the Interior to jointly conduct a study to determine the value of grazing with a view to establishing a fee to be charged for livestock grazing which is equitable to the United States and to holders of grazing permits and leases.

A letter dated December 29, 1976, and signed by the Assistant Secretary of the Interior and the Assistant Secretary of Agriculture, directed the Bureau of Land Management and the Forest Service to organize a Grazing Fee Task Force to prepare the "Report of the Secretaries."

The Economic Research Service, Department of Agriculture, will be a consultant to the Grazing Fee Task Force. Staff assigned by the Administrator of the Economic Research Service will participate in the collection and review of public comments and will provide advice on methodology, on evaluation of data, and on economic issues.

The task force co-chairmen are authorized to solicit assistance and advice from other sources as necessary.

## Statement of Assignment

The task force is assigned the responsibility for the accomplishment of all activities necessary to submit to the two Secretaries a grazing fee report, including recommendations, that will fulfill the requirements of Section 401(a) of the Federal Land Policy and Management Act. These activities include scheduling regional public meetings, obtaining necessary technical data, public release of the Technical Committee Report, "Review of Public Land Grazing Fees," consultation with the Office of Management and Budget, and reporting back to the Assistant Secretary of the Interior for Land and Water Resources and the Assistant Secretary of Agriculture for Conservation, Research, and Education by August 1, 1977.

The Grazing Fee Task Force shall terminate not later than December 21, 1977.

The charter of the Grazing Fee Task Force is approved by:

JOHN R. McGUIRE Chief,  
Forest Service

CURT BERKLUND Director,  
Bureau of Land Management

## Public Meetings and Involvement

The Federal Register of February 1977 contained a request for comments from those persons interested in the matter of public land grazing fees. Notice was given of intent to hold public meetings, solicit suggestions, comments, statements, and recommendations from all parties interested in the establishment of fees for grazing livestock on the Federal lands in the Western States administered by the Forest Service, USDA, and the Bureau of Land Management, USDI. Any individual desiring to present oral data, suggestions, comments, and/or arguments could do so at one of the scheduled meetings. Any interested person or organization could also file a written statement with the Task Force at the scheduled meetings.

The Grazing Fee Task Force considered comments regarding grazing fees on the following Federal lands:

1. Public lands administered by the Bureau of Land Management, Department of the Interior in the 15 contiguous Western States.

2. National Forest lands in the 11 contiguous Western States administered by the Forest Service, Department of Agriculture.

3. National Forest lands in South Dakota and Nebraska administered by the Forest Service.

4. All National Grasslands administered by the Forest Service.

Interested persons could submit written comments on grazing fees on or before April 8, 1977. Written communications were to be directed to the Grazing Fee Task Force, Range Management Staff, P.O. Box 2417, Washington, D.C., 20013, or presented at any one of the eight scheduled public meetings.

The public meetings were held at the locations and dates listed below during the hours of 9:30 a.m., to 3:00 p.m.

Rapid City, SD	March 7, 1977
Missoula, MT	March 9, 1977
Boise, ID	March 11, 1977
Reno, NV	March 14, 1977
Denver, CO	March 16, 1977
Albuquerque, NM	March 18, 1977
Washington, D.C.	March 23, 1977
Casper, WY	April 6, 1977

Additional afternoon and evening hours were made available as necessary.

In addition to the acceptance of comments from the public through written communications and public meetings, other consultations were held. Regular consultations were conducted with individuals from the Economic Research Service (ERS), USDA. Consultations have also been held with the Statistical Reporting Service (SRS), USDA, on specific items related to data and data collection.

A meeting was held in Fort Collins, Colorado, on May 11-13, 1977 to obtain additional information and insight. Agricultural economists knowledgeable on western livestock economic issues and public grazing attended, including representatives from Utah State University, University of Nevada at Reno, New Mexico State University, University of Wyoming, and the Economic Research Service.

The "Review of Public Land Grazing Fees" report was submitted in November 1976 in fulfillment of the Memorandum of Understanding signed in July 1976 between the BLM, FS, ERS, and SRS. The report was in response to the request of the Subcommittee on Environment and Land

Resources, Committee on Interior and Insular Affairs, United States Senate, at the April 30, 1976 Committee Hearing on S. 3071. This report was published for the convenience of interested individuals and/or organizations who desired to submit written comments regarding the "Review of Public Land Grazing Fees." The publication of the "Review of Public Land Grazing Fees" did not constitute approval of the report's recommendations by the Secretary of the Interior or Secretary of Agriculture.

The Technical Committee Report is attached as Appendix A.

#### Analysis of Public Comments.

A description of the Grazing Fee Task Force Charter and requests for comments were published in the Federal Register, February 4, 1977.

A total of 311 oral and written statements was received expressing concerns and suggestions on grazing fees. These statements were analyzed using the Codinvolve System, which is a method of coding and classifying the statements for quick retrieval and summary. The statements were recorded as 320 inputs. About 84 percent of the inputs came from the 11 Western States. Over 78 percent of these were from users of public lands for grazing and from individuals representing livestock associations that use Federal land.

Public comments were summarized according to the following classifications:

1. Alternatives for determining grazing fees
2. Costs that should be considered when computing fees
3. Increasing grazing fees
4. Resource management conflicts
5. Permit value
6. Variable fees
7. Determination of animal unit month

Most comments regarding alternative ways to determine grazing fees addressed the Technical Committee report recommendation, competitive bidding, and the present system (1969 formula). Twenty-one inputs approved the Technical Committee recommendation, while 35 opposed that alternative. Competitive bidding was favored in 9 inputs and opposed in 21. Those favoring competitive bidding generally did not graze on Federal land. Those who commented on continuing the present system were about evenly divided - nine inputs favored its continuation and 12 opposed.

Many comments were received about livestock production costs that should be considered when computing fees. One recurring theme was that public grazing lands are of poorer quality than private lands

because homesteaders had settled the choice areas. Respondents indicated that public land grazing requires more acres to support an animal, thus significantly reducing weight gains and increasing costs because of larger areas to fence and manage. It was apparent from the responses that many people, including those who have grazed livestock on Federal lands, do not understand the present system for setting grazing fees. Many respondents recommended including costs for items that had already been included when the 1966 fair market value fee of \$1.23 was established.

Nearly half the statements discussed increasing grazing fees. Ranchers using public land generally felt the present fees were high enough or too high, while many of those using private land thought that Federal fees were too low.

Livestock operators reported that costs are higher on Federal lands because of other uses such as wildlife and recreation. The possibility of conflicts increase when competing uses occur on the same area. Numerous operators stated fees should be reduced because of the impacts of wildlife on items such as available forage and salt. Other comments dealt with wildlife benefits resulting from range improvements for livestock grazing. The adverse effects of grazing on wildlife were also mentioned. Most statements about the conflicts between grazing and recreation indicated that recreational users damaged range improvements. Suggestions were made that recreational use should be controlled and recreational users charged for such use.

Although the Technical Committee report did not discuss permit value, many respondents offered comments anyway. Livestock operators generally were in favor of using permit value as a cost factor in setting fees. About one-fourth of the statements expressed opposition to considering permit value when setting fees for the reason that permit value belonged to the general public.

About 10 percent of the respondents commented on the possibility of variable fees. Most of them felt that fees should vary depending upon the acres per animal unit month (AUM) and the amount of improvements needed or in place.

All of those who addressed the question were in favor of changing the way an AUM for grazing fee purposes was determined. Recommendations included basing the fee on weight of animals, forage consumed and forage production.

A more detailed analysis of public comments is provided in Appendix B of this report.

## GOALS AND OBJECTIVES OF GRAZING PROGRAM ON FEDERAL LANDS

### Goals of Grazing Program

The FS, USDA and BLM, USDI, administer approximately 283 million acres of Federal land that is used for livestock grazing. The two agencies issue approximately 32,800 leases, licenses, or permits annually to farmers and ranchers to graze some 5 million head of cattle and 6 million head of sheep. The revenues from charges for grazing use were about \$25 million in 1976.

Both FS and BLM administer grazing on lands they administer under regulations promulgated by each agency under Public Law 94-579, dated October 21, 1976, and Title III of the Bankhead-Jones Farm Tenant Act. In addition, FS authority is contained in the National Forest Reserve Act of June 4, 1897 and the National Forest Reserve Act of April 24, 1950, while most of BLM lands are administered for grazing under the Taylor Grazing Act of 1934. For both agencies, broad objectives in the administration and management of the range resource include:

1. Conservation and improvement of the Federal rangeland to provide sustained livestock grazing consistent with the resource base and other public land uses.
2. Promoting stability for ranching operations and surrounding local communities dependent upon the public range as the source of their livestock forage.

### Objectives of the Grazing Fee System

Charges for grazing were first made on the National Forests in 1906, and on BLM-administered lands in 1936. The objectives of the grazing fee system have been developed through Federal legislation, Federal Executive policy, and agency studies and guidelines. These objectives, which apply to both BLM and FS, are listed below:

#### Collect Fair Market Value

The fee system should collect fair market value for use of the forage resource. Collection of fair market value is required by law and Executive policy. Statutory direction for all Federal agency fees is provided in the Independent Offices Appropriation Act of 1952 which states that fees shall be:

- self-sustaining to the fullest extent possible
- uniform among all agencies
- subject to Federal Executive policy
- fair and equitable to the public and user

The Federal Land Policy and Management Act of 1976 (PL 94-579) states that: ". . .The Congress declares that it is the policy of the United States that. . .' The United States receive fair market value of the use of the public lands and their resources unless otherwise provided for by statute;. . .'" (Section 102(a)).

Federal Executive policy on user charges is stated in:

--Bureau of the Budget Circular A-25, 1959, which calls for fair market value (On December 23, 1971, the Office of Management and Budget endorsed Circular A-25 as continuing to be valid.)

--Bureau of the Budget Natural Resources User Charges Study, 1964, which calls for a uniform fee system that will provide a fair return to the Government and equitable treatment to users. Fair market value is defined as the agreed price between a willing buyer and a willing seller, both having full knowledge of alternatives.

### Equity

The fee system must be equitable (fair) in its treatment of interested groups and individuals.

The fee should be equitable to the public, considering the public as a landowner receiving a return on property of value.

The fee should be fair to the rancher considering the value of grazing to the rancher.

The fee should be fair to livestock growers who do not have the opportunity to graze the public land. One primary measure of equity is that fees should be similar to the charge used if the resource was privately owned.

### Prevent Future Discrepancy

The fee system should prevent future discrepancy between fees charged and fair market value. In the past, problems concerning fees have resulted because the fee system inadequately adjusted fees to changing economic conditions and values. The fee system should include regular adjustments that would account for changes in values.

### Common to All Government Agencies

The fee system must be one that both BLM and FS can use. The law and Executive policy require a uniform policy among the agencies for establishing fees.

### Administrative Feasibility

The fee system must be administratively feasible.

It should be readily understandable to FS and BLM field administrators, to the ranchers, and others with a direct interest in the public lands.

It should not require extensive recurring data collection or computations that significantly increase the costs of administration.

It should not require independent judgment decisions at diverse locations.

It should be compatible with the permit system and other management needs.

### Use of Common Data

The fee system must use available data series which are uniform and historical.

The data for establishment and adjustment of fees must be common to all of the areas for which fees are charged.

The data must cover a reasonable period of time if the effects of its use are to be correctly anticipated.



## CHAPTER 2

### HISTORY OF GRAZING FEES

#### INTRODUCTION

Throughout the history of public rangeland management, no question has remained so long and so persistently in the public eye as the question of grazing use fees. This continuing controversy has been complicated by changing national goals, changing economic and social conditions, regional influences, confusing congressional action, and increasing public interest in multiple use philosophy. M. L. Upchurch, in a paper delivered before the Americal Association for the Advancement of Science on December 27, 1961 at Denver Colorado, summarized the problem with these words (Upchurch, 1961):

For most of the 19th century, disposal of the public domain was a chief public issue. For the last half-century or so, it has been management. Questions of public land management are still far from settled. With a shifting and growing population and with changing economics and social conditions, the question of public land is forever new.

#### HISTORY PRIOR TO 1969

##### Forest Service 1905-1968

When the Forest Reserves were created in 1897 from the Public Domain, most of the land was already heavily grazed (U.S. Senate, The Western Range, 1936). In 1905, when these lands came under the management of the Forest Service (FS) U.S. Department of Agriculture, livestock grazing was allowed under permit but without a user fee. That year, Secretary of Agriculture James Wilson revised the regulations and instructions with reference to grazing (Forest Service, The Use Book, 1906). Among other things, these new regulations provided for a reasonable fee, in accordance with the advantages of the locality, to be charged for grazing all classes of livestock on Forest Reserves. These first fees, implemented January 1, 1906, were from \$0.20 to \$0.35 per head for cattle for the regular summer grazing season, and from \$0.35 to \$0.50 per head for the entire year (Dutton, 1953).

Between 1906 and 1910 there was little change in the fees, except some adjustments were made between forests and regions in order to assess the same fee for similar ranges. In 1916, after careful consideration of the rental value of some 900 tracts of private ranges, the Secretary issued an order increasing the fees from \$0.12 to \$0.20 per head for a standard grazing season,

provided no fee exceeded \$1.50 per annum (Dutton, 1953). The method for calculating grazing fees was changed in 1931 based on studies of national grazing values conducted during the 1920s (Public Land Law Review Commission, 1970a).

The "Rachford Appraisal" (1924) included a survey of the rental value of over 2,000 tracts of privately owned and controlled land comprising over 20 million acres. The basic premise of the study was that data on rental rates on private rangelands could be used to determine the value of National Forest range. Forage quality, accessibility, water resources, proximity to market, and livestock handling cost were considered. From the 2,000 tracts, 1,975 tracts, or some 16 million acres, were used for comparison with National Forest rangelands. Recommendations from the appraisal were for grazing fees for cattle averaging \$0.181 on a per head per month actual basis.

Objections by the permittees resulted in the 1926 appointment of Dan D. Casement, a Kansas livestock breeder, to make a review of the "Rachford Appraisal." Mr. Casement filed his report on June 30, 1926, with recommendations. One of these recommendations was that the fees be related to the price of beef and lambs after 1930 (Casement, 1926). As a result of the appraisal and review, base per head per month fees were established by each National Forest and the increases were applied in installments of 25 percent each year during 1928, 1929, 1930, and 1931.

In 1933, the livestock users urged that the previous recommendation of Mr. Casement for relating fees to market values be made effective at once. On May 27, 1933, the Secretary directed that the average grazing fee for 1931 of \$0.145 per head per month for cattle be adjusted each year in accord with fluctuations in livestock prices (Dutton, 1953).

Under this formula, fees increased by four times from 1931 to 1968 (table 1); \$0.14 to \$0.56.

#### Bureau of Land Management 1934-1968

The Taylor Grazing Act of 1934 provided the principal authority for charging grazing fees on the public lands now administered by the Bureau of Land Management (BLM) and its predecessor, the Grazing Service, from 1936 to 1946 (Taylor Grazing Act, 1934). Section 3 of the Act directs the Secretary of the Interior to charge reasonable fees which take into consideration the public benefits accruing from the establishment of grazing districts. No fees were charged during the first year, 1935, because of administrative delay, although temporary licenses were issued in the 10 established grazing districts (DeNio, 1967).

In 1936, members of the grazing district Advisory Boards and Department of Interior representatives meeting in Salt Lake City, Utah agreed the fee would be \$0.05 per animal unit month (AUM). This was a compromise between the \$0.10 proposed by the Department and the zero fee contention of certain opposing stockmen who felt that the earlier free grazing had been incorporated into the taxable value of their base property. Other ranchers said the lower fee was justified by the comparatively low quality and leftover arid land being used for grazing (Tudor, 1969). The initial \$0.05 fee was accepted by the Secretary and prevailed in all districts through 1946 (table 2).

TABLE 1

Average Forest Service Grazing Fees for National Forests  
in Western United States, 1906 to 1968

Year	Cattle (Dollars Per Animal Month)	Sheep (Dollars Per Animal Month)	Year	Cattle (Dollars Per Animal Month)	Sheep (Dollars Per Animal Month)
1906	0.05	0.0100	1940	0.15	0.0370
1907	0.05	0.0100	1941	0.16	0.0385
1908	0.05	0.0100	1942	0.19	0.0460
1909	0.05	0.0100	1943	0.23	0.0550
			1944	0.26	0.0625
1910	0.04	0.0140			
1911	0.03	0.0130	1945	0.25	0.0610
1912	0.04	0.0150	1946	0.27	0.0625
1913	0.09	0.0450	1947	0.31	0.0750
1914	0.09	0.0450	1948	0.40	0.1000
			1949	0.49	0.1100
1915	0.10	0.0450			
1916	0.10	0.0450	1950	0.42	0.1075
1917	0.10	0.0350	1951	0.51	0.1225
1918	0.11	0.0350	1952	0.64	0.1525
1919	0.13	0.0350	1953	0.54	0.1175
			1954	0.35	0.0900
1920	0.13	0.0350			
1921	0.13	0.0350	1955	0.37	0.0900
1922	0.13	0.0350	1956	0.35	0.0875
1923	0.13	0.0350	1957	0.34	0.0900
1924	0.13	0.0350	1958	0.39	0.0975
			1959	0.50	0.1025
1925	0.13	0.0450			
1926	0.13	0.0450	1960	0.51	0.0925
1927	0.14	0.0450	1961	0.46	0.0875
1928	0.12	0.0375	1962	0.46	0.0775
1929	0.12	0.0400	1963	0.49	0.0900
			1964	0.46	0.0900
1930	0.14	0.0425			
1931	0.14	0.0450	1965	0.46	0.1025
1932	0.07	0.0225	1966	0.51	0.1175
1933	0.09	0.0200	1967	0.56	0.1225
1934	0.08	0.0240	1968	0.56	0.1150
1935	0.08	0.0270			
1936	0.13	0.0340			
1937	0.13	0.0370			
1938	0.15	0.0425			
1939	0.13	0.0330			

TABLE 2

## Bureau of Land Management Grazing Fees, 1936 to 1968

Year	Total Fee (Dollars Per AUM)	Basis
1935	No Fee	.....
1936-1946	0.05	Cost of administration
1947-1950	0.08	Nicholson Report
1951-1954	0.12	Reasonable fee
1955-1957	0.15	Reasonable fee
1958	0.19	100 percent livestock price formula
1959-1960	0.22	100 percent livestock price formula
1961-1962	0.19	100 percent livestock price formula
1963-1965	0.30	150 percent livestock price formula
1966-1968	0.33	150 percent livestock price formula

Growing administrative cost during this early period and increased political pressures from other interests for a larger fee made a reassessment of the fee level necessary. The Range Appraisal Study (Leech and Saunderson, 1941), was undertaken by the Grazing Service to provide a basis for determining the "reasonable fees" authorized by the Taylor Grazing Act. This report supported a sliding fee schedule based on commercial value per AUM and the productivity of the range. Controversy arose not only between permittees and the Department, but between congressional committees, such as the Appropriations and the Interior Affairs Committees (Foss, 1960). Partly as a result of the controversy, the Grazing Service, in July 1946, was merged with the General Land Office into a new agency, the Bureau of Land Management (U.S. Senate, 1963a). Thereafter, the Secretary appointed Rex Nicholson, a California cattleman, as a consultant to study and make recommendations on the organization and staffing of the new bureau as well as on the grazing fee issue.

The "Nicholson Report" (1946) recommended that grazing fees be based on the permittee's share of public land administration cost. He also recommended raising the total fee to \$0.08 with \$0.06 being a grazing fee, and the other \$0.02 a fee for range improvements. The Secretary accepted this recommendation and the \$0.08 fee was charged from July 1947 through 1950. Section 3 of the Taylor Grazing Act was amended in 1947 largely as a result of the "Nicholson Report," to provide for reasonable fees, public benefits, and the range improvement fee (the "Barrett Amendment").

The "Barrett Amendment" was introduced as H.R. 4079, 80th Congress by Congressman Frank A. Barrett (Wyoming) on July 2, 1947. When reporting on the bill, Mr Barrett stated:

This bill, by abolishing the present single reasonable fee for use of the grazing districts and establishing two separate fees, one for grazing and one for range improvements, will leave in the Federal Treasury after distribution of the States' share, an income approximately equal to the cost of administration. This has not been true for several years under the present method. Another advantage is that by establishing a separate range-improvement fee, it provides a practical administrative basis for charging a sufficient amount in each grazing district to meet the range-improvement needs of that particular district.

The bill was approved on August 6, 1947, as PL No. 376. The amendment relating to fees provided as follows (48 Stat. 1270, 43 U.S.C., Sec. 3156):

...upon the payment annually of reasonable fees in each case to be fixed or determined from time to time, and in fixing the amount of such fees the Secretary of the Interior shall take into account the extent to which such districts yield public benefits over and above those occurring to the users of the forage resources for live-stock purposes. Such fees shall consist of a grazing fee for the use of the range, and a range-improvement fee which, when appropriated the Congress, shall be available until expended solely for the construction, purchases, or maintenance of range improvements.

In 1950, the National Advisory Board Council (NABC) of BLM, acceded to growing pressures from other interests, and recommended an increase in the grazing fee from \$0.08 to \$0.12. The \$0.12 fee (\$0.10 grazing use and \$0.02 range improvement fee), was in effect from 1951 through 1954. Because of continuing controversy and complaint, the "cost of administration" fee philosophy slowly gave way to a new basis which would be mutually acceptable to the Government and the rancher-users of public lands (DeNio, 1967).

In 1954 NABC recommended a new fee basis, varying with livestock prices, somewhat like that used by the Forest Service. The result was a fee formula system by which the total fee was 100 percent of the average of the previous year's prices per pound for beef and lamb on the markets of the 11 Western States. Of the total fee, 67 percent was for forage and 33 percent for range improvement purposes. Permittees generally felt the formula recommendation was reasonable because it was based on livestock prices and they could anticipate the fee costs in making their financial arrangements for the next year's operation (Tudor, 1969).

Fees based on the new average livestock price formula were not put into effect until 1958. During the transition period (1955-1957), the total grazing fee was held at \$0.15 because of drought conditions throughout the Southwest. Beginning in 1958, the new fee was \$0.19; in 1959 and 1960 the fee rose to \$0.22. Because of declining livestock prices, the fee declined to \$0.19 in 1961 and 1962 (table 2).

In 1962 the Secretary of the Interior informed both NABC and permittees that grazing fees were again under review and that pressures from Congress and the Executive were mounting for fee increases. A proposal was made to change the percentage factor in the livestock price formula from 100 to 150 percent. As a result of rancher protest, hearings were held in 1962-1963 by the Senate Public Lands Subcommittee under Senator Alan Bible of Nevada (U.S. Senate, 1963a,b). Early in 1963, Secretary Udall

adopted the 150-percent factor which resulted in a significant increase of \$0.11 (from \$0.19 in 1962 to \$0.30 in 1963). In 1966 improved cattle prices advanced sufficiently to place the total fee at \$0.33 where it remained through 1968 and the procedure was discontinued.

#### Other Federal

Federally owned lands are also administered for live stock grazing by the Army, Navy, and Air Force in the Department of Defense, and by the National Park Service (NPS) and the Fish and Wildlife Service (FWS), and Bureau of Reclamation (BR) in the Department of the Interior (Public Land Law Review Commission, Study Report No. 27, 1970b). Grazing lands are also administered by the Bureau of Indian Affairs (BIA) in the Interior Department; however, these are lands owned by Indian tribes, or individual allotments held in trust by the Government (BIA, 1977a).

Administration of livestock grazing, other land management objectives, and grazing fee policies differ among the various agencies because each operates under different statutory authority and agency mission.

Unlike BLM and FS, range resource management for domestic livestock production is not a major objective of programs being carried out by the other Federal agencies. With the exception of BIA, grazing is incidental to agency programs and is carried on either to make productive use of lands not currently needed for primary programs or to facilitate these programs.

Major differences also exist in methods used by the various agencies to allocate grazing and to establish fees for grazing use on Federal lands. These differences are related to conditions which existed at the time lands were reserved or acquired for public use, authorities under which the different agencies operate, and long-term resource management objectives.

Two general methods are currently used to establish grazing fees - market pricing and base formula pricing. The Defense agencies, BIA, FWS, and BR employ some form of market pricing, either competitive bidding, appraisal, or both, to set their grazing fees (Public Land Law Review Commission, Study Report No. 27, 1970b). In general, NPS has used fees established by FS or BLM on adjacent National Forests or Taylor Grazing Districts as a basis for the fees to be charged for grazing on the National Parks. In some cases, charges are based on those used on adjacent or adjoining State lands.

The competitive bidding or negotiation procedures used by the Defense agencies and BR serve to both allocate grazing use and establish fees. The objective is to obtain maximum

revenues from grazing. The permit system used by NPS requires that fees be determined by administrative means. Attainment of basic objectives for which the parks and monuments are established has been the important consideration rather than revenues from grazing.

The fees charged for grazing use during 1964 are shown in table 3.

TABLE 3  
Grazing Fees - 1964

Department and Agency	Average Charge Per Acre	Average Charge Per AUM
<u>INTERIOR</u>		
<sup>a</sup> Indian Affairs	\$0.402	\$1.59
Fish and Wildlife Service	0.354	1.20
National Park Service	0.018	0.30
Bureau of Reclamation	0.225	....
<u>DEFENSE</u>		
Army		
Military	0.936	....
Civil Works	1.560	....
Navy	1.273	....
Air Force	0.470	....

<sup>a</sup>Indian lands leased for grazing to nonIndian users.

## USER FEE GUIDELINES AND STUDIES

Historical privileges, agency policy, Presidential direction, public opinion, and congressional mandates have resulted in the use of different methods to determine fees to be charged for livestock grazing by various Federal agencies. As a result, there has been variation in the level of fees charged for grazing on Federal lands and, in some cases, the fees may not have reflected the value of grazing to the permittee (GAO, 1959). This situation has been recognized for some time and the following discussion summarizes the reports, directives, and studies that have guided Federal agencies in establishing grazing fees.

### 1951 Through 1965 Period

#### Congressional

Congress spelled out its general policy on fees and charges for government work, service, publication, report, privilege, use, license, permit, and similar things of value and utility in Title V of Public Law 137 (65 stat. 290, August 31, 1951; 5 U.S.C. 140) (Independent Offices Appropriation Act of 1952). The pertinent portion states:

It is the sense of the Congress that any work, service, publication, report, document, benefit, privilege, authority, use, franchise, license, permit, certificate, registration, or similar things of value or utility performed, furnished, provided, granted, prepared, or issued by any Federal agency ... to or for any person (including groups, associations, organizations, partnerships, corporations, or businesses), except those engaged in the transaction of official business of the Government, shall be self-sustaining to the full extent possible, and the head of each Federal agency is authorized by regulation (which, in the case of agencies in the executive branch, shall be as uniform as practicable and subject to such policies as the President may prescribe) to prescribe therefore such fee, charge, or price, if any, as he shall determine, in case of an existing one, to be fair and equitable taking into consideration direct and indirect cost to the Government, value to the recipient, public policy or interest served, and other pertinent facts, and any amounts so determined or redetermined shall be collected and paid into the Treasury as miscellaneous receipts: Provided, that nothing contained in this section shall repeal or modify existing statutes prohibiting the collection, fixing the amount, or directing the disposition of any

fee, charge or price: Provided Further, That nothing contained in this section shall repeal or modify existing statutes prescribing bases for calculation of any fee, charge or price, but this proviso shall not restrict the redetermination or recalculation in accordance with the prescribed bases of the amount of any such fee, charge or price.

This concern by the Congress for the grazing fee problem continues to this time as evident by the request for this report. The General Accounting Office audit report to the Congress for the fiscal year ending June 30, 1954, transmitted to the Speaker of the House in May 1955, criticized the inadequacy of BLM grazing fees. That report contains the following recommendation: " ... We recommend that the Bureau complete its grazing fee revision plans and that the Secretary of the Interior review and approve the changes."

In a report to the Congress from the Comptroller General, the wide variation in charges for grazing privileges made by Federal agencies and by private landowners was emphasized (GAO, 1961). That report also commented on renewed efforts, under the direction of the Bureau of the Budget (BOB), to establish more uniform methods of determining user charges and more realistic levels of grazing fees.

#### Presidential

President Kennedy (1962), in his special message to the Congress, set forth the guidelines under which the Executive agencies were to move forward on the matter of fees. He stated, "For example, we plan to establish a realistic schedule of fees and charges for use of Federal rangelands to replace the peculiar patchwork schedule now in effect."

#### Office of Management and Budget (formerly Bureau of Budget)

Bureau of the Budget Bulletin No. 58-3. This bulletin was published November 13, 1957, and preceded BOB Circular No. A-25 issued September 23, 1959. It asked (at the President's request) each Executive to prepare legislative proposals for removing all present limitations or restrictions on BOB's authority to (1) recover full costs for Government services which provide a special benefit, and (2) obtain a fair market value for Government-owned resources or properties sold or leased.

Concerning cost recovery for services, BOB recommended: "Where a service (or privilege) provides special benefits above and beyond those which accrue to the public at large, a charge should be imposed to recover the full cost to the Federal government of tendering that service."

The bulletin recommended the following concerning the sale or use of Federally owned resources or property: "The fair market value should be realized from the sale or use of Federally owned resources or property. Sound business management principles and comparable commercial practices should be followed so far as practicable and feasible. Generally, this activity should be revenue producing and should not be based on the recovery of costs alone."

Bureau of the Budget Circular A-25. In 1959, BOB issued Circular A-25, pursuant to the 1952 Act, establishing the basic principle that where Federally owned resources are leased, a fair market value should be obtained for use of them.

Circular No. A-25 covered all Federal activities which convey special benefits to recipients above and beyond those accruing to the public at large. The circular states that, "A reasonable charge . . . should be made to each identifiable recipient for a measurable unit or amount of Government service or property from which he derives a special benefit." The circular continues: "Where Federally owned resources or property are leased or sold, a fair market value should be obtained. Charges are to be determined by the application of sound business management principles and so far as practicable and feasible in accordance with comparable commercial practices."

Bureau of the Budget 1964 Study. In 1964, BOB issued Natural Resources User Charges: A Study. This document repeats the same wording as Circular No. A-25 regarding fair market value, but goes on to be more specific concerning grazing fees, as seen by these extracts:

- 1) Fees established on a uniform basis should be charged by all Agencies for the grazing of livestock on Federal lands.
- 2) Fees should be based on the economic value of the use of the land to the user.
- 3) Economic value should be set by an appraisal that will provide a fair return to the Government and equitable treatment to the user.

#### Agency Studies

Interdepartmental Grazing Fee Committee. Beginning in 1960, an Interdepartmental Grazing Fee Committee, consisting of professional representatives of the Departments of Agriculture and Interior working with the Department of Defense and Bureau of the Budget, made a detailed review of user charges for livestock

grazing on all Federal lands. A report on this review was submitted to the Secretaries of Agriculture, Interior, and Defense in 1965 and published in 1967 (DeNio, 1967).

Included in the Interdepartmental Committee recommendations were the following statements:

The previous analysis of alternative methods of processing suggest that either competitive bidding or appraisal procedures be used to establish fees which reflect the fair market value of grazing use on public lands. Review of Federal grazing policies reveals that all of the agencies except the Forest Service, Bureau of Land Management, and National Park Service, currently use one or the other of these methods to establish fees. . . .the Committee recommends that the Defense agencies, Bureau of Indian Affairs, Bureau of Sport Fisheries and Wildlife, and Bureau of Reclamation continue their present methods for setting fees and that the Forest Service and Bureau of Land Management use the "Statistical Analysis of Market Lease Data" method of appraisal<sup>1</sup> to establish fee systems.

The Committee selected an economic model that had been developed and tested by Dr. N.K. Roberts and Mardell Topham of Utah State University in a study jointly sponsored by FS, BLM, and the Utah State Experiment Station. Based upon the successful application of the model in Utah, the two agencies contracted with the Statistical Reporting Service, USDA, to help plan the data collection, compilation, and processing for a grazing survey in the 17 Western States.

## University Studies

Background studies were carried out for FS by several Western State universities. These studies resulted in the development of a logical economic framework within which public land grazing values can be determined. They have also contributed substantially to the knowledge of the economics of range livestock production.

In a study sponsored jointly by BLM and FS in 1964 and 1965, Roberts (Roberts and Topham, 1965), studied 635 grazing land sales and leases in Utah to (1) analyze total range use costs, (2) determine forage site values, and (3) develop a method of predicting user costs. Roberts' methodology was analogous to professional appraisal techniques for evaluating leasehold interests in private rentals, and his concept of equating total utilization costs for ranchers using public lands and privately owned lands was equivalent to the appraiser's technique for using "comparable market data." The sole difference between Roberts' methodology and leasehold evaluation in appraisal lies in the scope of the analysis. The large amount of market data available on a State basis requires the use of statistical sampling and analysis techniques to segregate and test the relevant variables affecting changes in grazing rentals.

Other grazing value studies sponsored jointly by BLM and FS were conducted by Arizona (Jefferies, 1946) and Montana State Colleges (Infanger, 1964). The reports were submitted in the form of masters theses. Different procedures were used to develop and test methods for estimating the value of grazing use. The Arizona study used ranch sale data and regression analysis to arrive at estimated permit values. Ranches with and without public land grazing permits were compared in the Montana project. Differences in returns to ranchers with and without permits were used to estimate permit values. The studies showed that substantial permit values existed, indicating that fees were below the actual value of grazing use. Estimates were also made of the effects of increasing grazing fees on permit values and the change in private income and Federal revenues for alternative fee levels.

These background studies indicated certain basic relationships existed between costs of grazing on public and private lands, and that permit values, lease rates on private grazing lands, and nonfee costs of using both public and private lands provided indicators which could be used to estimate public land grazing values. These basic concepts were used in a project initiated by FS and Utah State University to develop a model and computer program to estimate grazing values, establish fee levels, and define fee areas.

In a Utah State University study "Determining Grazing Fees on National Forests", Dr. B. C. Jensen, (1967), developed a model to estimate grazing values, establish fee levels, and define fee areas. The model showed how grazing values could be determined directly from permit values, since permit values evolved due to a total public versus total private cost of grazing differential.

Studies done for FS by Utah State University showed that, if the laws of economics operated freely in a range market area, the total cost of using comparable public and private ranges would be equal. According to the studies, if a difference did exist, ranchers would try to use the lower-cost forage source. As more ranchers tried to use the lower-cost forage, the price of this forage would go up, the cost of using the higher-price forage would fall, and the process would continue until a difference no longer existed.

As pointed out in the Utah State studies, the fee for the use of FS range has not been set by competition in a range market. When this fee is lower than that charged for alternative ranges, then these grazing privileges have to be rationed. The high demand for and the limited supply of these privileges result in a value being placed in grazing privileges on public lands.

The Utah model study established that the economic principles of supply and demand do operate to establish range forage prices just as they do for products in other markets. The study showed that range forage markets did exist in which the price for public grazing equaled the price for private grazing which equaled the value of the marginal product of the resources. Since the grazing fee charged by FS is less than the marginal value product of the grazing, other ranchers tried to obtain the public grazing. As these ranchers bid for the opportunity to graze on public land for a fixed fee, the privilege to graze these lands takes on value. Thus, the grazing permit took on a monetary value that varied as the supply and demand conditions for grazing varied.

The Utah model study found that in Utah the cost differential between total public and private costs capitalized at a reasonable rate of return equaled the average permit value. It was concluded that there was a reasonable amount of competition for range forage, and that a relatively free market existed for public grazing. This meant that the value of the forage equaled the present fee per AUM plus the capitalized average permit value or the present fee per AUM plus the average cost differential between public nonfee costs and private total costs.

Results of the background studies and subsequent model development provided a basis for the comprehensive 1966 Western Livestock Grazing Survey which provided other data used to evaluate FS and BLM grazing fee structures.

Another study at Utah State University, "The Potential Impact of Alternative Fee Adjustments," by Darwin B. Neilson, analyzed the effects of changing grazing fees on rancher income, grazing permit values, secondary sectors of the local economy, county revenues, and Federal revenues. The author estimated the impacts which might result from three alternative fee policies that would be adopted by FS.

A summary of losses and gains in revenues at various grazing fee levels for Utah ranchers using FS lands is shown in table 4. The losses and gains are annual estimates except for Rancher Permit Values which would only occur when different fee policies were initiated (assuming some permit value remained). Twenty-five percent of the losses in rancher income would be returned to the counties in which FS lands are located. The remaining 75 percent would be deposited in the Federal Treasury. Losses exceed gains by the amount lost in the secondary sector and the permit value lost. Whether secondary benefits might be forthcoming from increases in county and Federal revenues was beyond the scope of the study.

#### After 1965

##### Agency Studies

Western Livestock Grazing Survey (1966) and Analysis. The Western Livestock Grazing Survey was designed to provide data needed to estimate grazing values on 98 National Forests, 19 grasslands, and 58 BLM districts. In 1966, about 10,000 individuals were interviewed in the survey to collect more than 14,000 questionnaires. These included FS and BLM grazing permittees, and ranchers who were not permittees but did lease private grazing lands. Information was obtained on the market value of grazing permits, lease rates on private grazing lands, and nonfee costs of using public and private grazing lands.

TABLE 4

Summary of Annual Losses and Gains in Revenues at Various  
Grazing Fee Levels for Utah Ranchers Using Forest Service Lands

Fee Level	Losses		<sup>a</sup> Secondary Effects On Local Economy	Gains	
	Rancher Income	Rancher Permit Values		County Revenues	Federal Revenues
Fee that stabilizes the permit value	\$ 11,080	.....	\$ 22,160	\$ 2,770	\$ 8,310
Intermediate fee	225,279	\$ 6,242,745	450,558	56,320	168,959
Fee that eliminates permit values	434,089	12,936,156	868,178	108,522	325,567

Source: The Potential Impact of Alternative Fee Adjustments, Utah State University, 1967.

<sup>a</sup>  
Assuming a generator factor of 2.0.

In developing the approach and basic model for the study, an important element was to determine the meaning of "fair" and "equitable". In reviewing the literature and the situation, the Government agencies agreed that the user charge for grazing should be developed to resemble, as nearly as possible, the value that would be determined in the competitive market. Since grazing permits provide for renewal to the current holder, there is no competition to determine the fee. Consequently, the fair market fee would have to be estimated indirectly.

The principles of supply and demand operate in a competitive range market to establish prices for private range forage just as they do for products in other markets. Hence, the method of estimating fair market value for grazing on public lands was based on the following: that the fair market value of public range forage used for grazing is equal to the lease rate for private forage adjusted by the amount that the cost of grazing on private lands is less than the cost of grazing on public lands.

Historically, BLM and FS have tried to develop the range resources to their reasonably attainable productive potential and manage them for sustained grazing in conjunction with other uses. This objective conditions the public lands grazing permittee to management practices that are not necessarily associated with leased private grazing lands. These management requirements and restrictions may impose additional nonfee operating costs<sup>2</sup> on the permittee which usually are not imposed on the lessee of private lands. The amount of nonfee costs borne by the permittee and private lessee will have a direct bearing on how much he can pay as fees or rent. In other words, if a competitive market exists for grazing forage, the total user costs for comparable public land and private ranges will be equal. If use differentials exist, ranchers in a competitive market will attempt to gain control of the low-cost forage source. The nonfee costs plus the private lease rate represent the total cost of operation on leased private land. When the nonfee cost items for public land users are subtracted from the total cost to the rancher leasing comparable private grazing land, the difference measures the dollar value a rancher should be willing to pay in a competitive market for use of the public land.

The FS and BLM made preliminary analyses of the data from the 1966 survey and met with representatives of the livestock industry throughout 1967. In May 1968, at the direction of the Office of Management and Budget, a special interagency Grazing Fee Technical Committee was appointed to determine whether the information in the 1966 survey showed (1) any statistical difference between the costs of grazing on BLM and FS lands, or (2) if there was any basis for a variable fee. The report of this committee, known as the "Houseman Report," reached the following conclusions:

1. Variation among individual allotments of grazing cost per AUM was very large within every category studied, namely, ranching areas, season of use, and size of permit or lease. The strongest relationship found was the tendency for grazing cost to decrease as the size of allotment increased. Other relationships might have existed but could not be firmly established because of large random variation in the data. The wide variation of grazing cost among individual allotments should be interpreted as a reflection of the actual situation and not as an indication of inaccurate data.

2. The overall average cost per AUM of grazing cattle was \$0.62 larger on FS land than on BLM land. This difference was statistically significant, but, when the cost data were adjusted for differences between agencies in the seasonal use of land and differences in the distribution of AUMs by size of permit, the adjusted average cost for FS was only \$0.08 larger than the BLM adjusted average cost. This adjusted difference was not statistically significant. For sheep, the unadjusted difference in grazing cost for FS was \$0.56 larger than BLM. Sheep grazing, with regard to time of year and size of permit, differed between BLM and FS land to such an extent that statistical adjustments of the grazing costs to a common pattern were not practical. The committee concluded there was no statistical support from the survey data for differential base fees between BLM and FS ranges.

3. Differences among ranching areas, as shown by the data, were not large enough in relation to the wide variation that existed within areas to provide a basis for recommending differential base fees among ranching areas.

4. Comparison of the cost of grazing on private land (including lease rate) with the cost of grazing on public land (excluding the grazing fee) showed an overall difference of \$1.60 per AUM for cattle. But, the average private lease was smaller in terms of AUMs than the average public permit. When the cost data for private land were adjusted to the distribution of AUMs by season of use and size of permit on public land, the difference dropped to \$1.26. The overall difference for sheep was \$1.15 per AUM; after adjustment for season and size it was \$1.13. Because of the small difference involved, the committee concluded that the grazing cost data did not provide a basis for establishing differential base fees between cattle and sheep.

5. As an overall average for cattle and sheep combined, it seemed appropriate to weight the two figures, \$1.26 and \$1.13 by the corresponding total number of cattle and sheep AUMs on public land. This gave \$1.23 with a standard error of \$0.09. The weighted average was not much less than \$1.26 because 80 percent of the AUMs were for cattle.

6. The committee regarded \$1.23 as the figure having the soundest basis in statistical evidence for purposes of establishing a base fee. Comparisons of the various cost items collected in the 1966 survey are itemized in table 5.

A look at the total nonfee costs for cattle in table 5 shows \$3.28 for public lands and \$2.75 for private lands. This means that for similar rangelands with comparable landlord lessee arrangements, it costs the operator \$0.53 more to use public lands than private lands. These higher costs include a higher death loss, association fees, higher herding costs, greater cost of travel to and from the allotment, higher water maintenance costs, and larger investments in range improvements (development depreciation).

TABLE 5

Summary of Public and Private Costs Per Animal Unit Month  
for Grazing in the Western States, 1966

Cost Items	Cattle		Sheep	
	Combined		Combined	
	Public Costs	Private Costs	Public Costs	Private Costs
Lost animals	\$0.60	\$0.37	\$0.70	\$0.65
Association fee	0.08	....	0.04	....
Veterinary	0.11	0.13	0.11	0.11
Moving livestock to and from	0.24	0.25	0.42	0.38
Herding	0.46	0.19	1.33	1.16
Salt and feed	0.56	0.83	0.55	0.45
Travel to and from	0.32	0.25	0.49	0.43
Water	0.08	0.06	0.15	0.16
Horse	0.16	0.10	0.16	0.07
Fence maintenance	0.24	0.25	0.09	0.15
Water maintenance	0.19	0.15	0.11	0.09
Development depreciation	0.11	0.03	0.09	0.02
Other costs	0.13	0.14	0.29	0.22
Total nonfee costs	3.28	2.75	4.53	3.89
Private lease rate (1966)	(1.26)	1.79	(1.13)	1.77
Total Costs	4.54	4.54	5.66	5.66
Difference between total private/public nonfee costs	\$1.26		\$1.13	
Combined cattle and sheep (weighted average)	\$1.23			

Note: These were data developed by the Grazing Fee Technical Committee from analysis of 1966 survey data. Public costs are livestock operation costs on both FS and BLM allotments. Private costs are livestock operation costs on leased private grazing land. Combined difference for cattle and sheep as weighted by AUMs of grazing by cattle and sheep on public land.

Since it costs the rancher \$0.53 more per AUM to use public lands than private leased rangeland, the private lease rate of \$1.79 per AUM must be adjusted downward by 53 cents to make the public and private leases comparable ( $\$1.79 - 0.53 = \$1.26$ ). The same result can be obtained by subtracting the total nonfee grazing associated costs on public leases (\$3.28) from the total of the fee and nonfee costs (\$4.54) on private leases ( $\$4.54 - \$3.28 = \$1.26$ ). It is usually less confusing to view the model as an adjustment of the private lease rate to account for the difference in operating costs associated with each type of lease (private and Federal). The model is not designed to be a total ranch budget reflecting ranchers' ability to pay.

Technical Committee Report (1976). The interdepartmental Technical Committee to review Public Land Grazing Fees was established by a Memorandum of July 12, 1976, in response to the request of the Subcommittee on Environmental and Land Resources, Committee on Interior and Insular Affairs, United States Senate, at the April 30, 1976 Subcommittee Hearing on S. 3071. The Technical Committee completed its report, Review of Public Land Grazing Fees, on November 15, 1976 (Appendix A).

The Technical Committee report discussed the present procedures for establishing fees, examined the several alternatives which had been proposed, and commented on whether, as claimed by some, relationships of the 1966 Western Livestock Grazing Survey had changed. In discussing the alternatives the report states: "All of the alternatives proposed including the current system have advantages and disadvantages. In other words, there is no perfect lease arrangement, but only better or worse arrangements. This may explain the large variability of lease arrangements in effect around the country between landlord and lessee."

The Technical Committee recommendations (Trierweiler, 1976), were preceded by this statement:

Establishing a grazing fee formula which is completely acceptable to the various management agencies and the users of Public Lands is a difficult task. It must accurately reflect the value of the resource and still take into account institutional restrictions and goals. Given the inabilities of economics as a discipline to aggregate individual utilities into a single function, the next best alternative appears to be a "proxy" for the norm of economic efficiency. In the absence of a better criteria this value judgment will have to be accepted.

The proxy formula recommended by the committee provided that equal weight be given to the index of private land lease

rates and a combined index constructed by subtracting the prices paid index from the beef price index. Any increase in the fee would be limited to no more than 25 percent of the preceding year's grazing fee. Suggestions were also made for improvement in data collection.

### Congressional

Public Land Law Review Commission (PLLRC). When establishing the PLLRC in September 1964, Congress declared the following policy: "That the public lands of the United States shall be (a) retained and managed or (b) disposed of, all in a manner to provide the maximum benefit for the general public." (Public Law 88-606 (78 Stat. 982).) It also directed that a comprehensive review be made of the public land laws and the related administrative rules and regulations to determine whether and to what extent revisions were necessary to accomplish the stated policy objectives. To fulfill these requirements, the Commission staff developed a study program encompassing various subject areas and separate manuscripts were prepared covering each of 33 topics. Each study was designed to examine a portion of the public lands.

User Fees and Charges for Public Lands and Resources (PLLRC Study Report No. 27, July 1970b), was designed to provide a comprehensive understanding of the present pricing policies, the different basis for charging fees, and level of receipts relating to the use of public lands. The study discussed the variety of fees, the situations where they are imposed and, where available data permitted, the level and trend in fees. The final chapter of the report contained an analysis of the role of pricing in the economy, with emphasis on the dual considerations of efficiency in resource allocation and the broad question of equity.

The results of the analysis of the systems existing in 1969 revealed there were significant differences in (1) the statutory authority to charge fees, (2) the objectives of pricing policies, (3) policy differences among agencies, and (4) the treatment of users for particular goods or services (PLLRC, 1970b). In addition, there were reported differences in the scope of user fees and charges within a commodity class, and the extent to which special provisions or exemptions were made for certain classes of users.

The User Fees and Charges for Public Lands and Resources study report presented a discussion (Chapter V) of alternative policies for user fees and charges without making any specific recommendations. The specific recommendations of the commission were set forth in its report, "One Third of the Nation's Land, A report to the President and to the Congress," issued in June

1970. A total of 137 specific recommendations for policy guidelines for the retention and management or disposition of Federal lands were made.

Chapter 6, Range Resources, of the "One Third of the Nation's Land" report provides the commissions' discussion and specific recommendations for grazing on public lands in the Western States (PLLRC, 1970a). Within Chapter 6 there were eight specific recommendations (numbers 37 through 45) with discussions, directed primarily to FS and BLM. Recommendation 44 stated: "Fair market value, taking into consideration factors in each area of the land involved, should be established by law as a basis for grazing fees." In discussing this recommendation, the commission said: "A proper statutory basis for grazing fees on land retained in Federal ownership would be fair market value and the commission recommends the adoption of this standard. Fair market value, however, is only valid as a standard if it provides a measure of the value of what is sold to the purchaser who knowingly takes into account the advantages and disadvantages of products or services." (PLLRC, 1970a.)

Interior and Related Agencies Appropriation Bill. More recently, in the report for the Department of the Interior and Related Agencies Appropriation Bill, 1976 (No. 94-374), the committee states: "One issue of the rangeland problem has been the lack of sufficient funding for improvement programs. In addition to insufficient appropriations, the grazing fees charged for use of public lands have been significantly lower than fees charged on private lands and the fair market value on public lands. Since revenues derived from grazing fees are used in part to improve rangelands, the low fees charged on public lands in the past have contributed to the present funding problem."

Federal Land Policy and Management Act of 1976. The Federal Land Policy and Management Act of 1976 (P.L. 94-579) contains several sections of special interest for consideration of user fees, specifically:

Section 102(a). The Congress declares that it is the policy of the United States that --- (9) The United States receive fair market value of the use of the public lands and their resources unless otherwise provided for by statute;

Section 401(a) of the same law directs the Secretaries of Agriculture and Interior to conduct ". . . a study to determine the value . . . which is equitable to the United States and to the holders of grazing permits and leases . . . ." The study ". . . shall take into consideration the cost of production normally associated with domestic livestock grazing in the eleven Western States, differences in forage values, and such other factors as may relate to the reasonableness of such fees."

Most recently, the House Appropriations Committee Report (95-392) on bill H.R. 7636, June 6, 1977, made the following statement:

Public land grazing fees have been frozen as a result of the Federal Land Management Act of 1976, and cannot be changed until a report on fees is issued. That report is expected to be completed in October of 1977. The Committee strongly urges that the Departments of Interior and Agriculture, upon receipt of that report, establish fees that will insure that fair market value is obtained for use of the public lands.

Section 3 of the Taylor Grazing Act was also amended to read "... upon the payment annually of reasonable fees in each case to be fixed or determined from time to time in accordance with governing law."

#### Executive

The President's budgetary recommendations for fiscal year 1974 (page 104) stated: "Fees for grazing on public lands will be increased to achieve a level equivalent to fair market value in the 1980 grazing season."

By separate letters dated November 22, 1974, Director Roy L. Ash, Office of Management and Budget, advised Secretary of Agriculture, Earl L. Butz and Secretary of the Interior, Rogers C. B. Morton that the present formula should be retained and not

modified. Mr. Ash had been asked to comment on a proposal that would use a combined index comprised of beef prices minus Agricultural Prices Paid Index to compute annual grazing fees. In his letters Mr Ash said:

I do have some serious concerns with the proposed modification. The proposal appears to be a movement away from a direct derivation of fair market value of Federal rangelands. It departs from present Federal policies for determining user charges as contained in Circular A-25. Section 3.b. of Circular A-25 provides in part that fair market value should be obtained and that "charges are to be determined...in accordance with commercial practices." Furthermore, the (proposal) formula for deriving the fees has serious shortcomings that fail to make it a fair proxy or acceptable substitute for the market index. It would base grazing fees on the profitability of ranching operations rather than the value of rangelands, the factor of production in question.

#### HISTORY OF AGENCY GRAZING FEES SINCE 1968

On January 14, 1969, the Bureau of Budget (now Office of Management and Budget) announced the new fee schedule for FS and BLM. The new schedule for charging fees resulted from an intensive 2-year study using data from the Western Livestock Grazing Survey conducted by the Statistical Reporting Service. As explained above, the conclusion was that fair market value (FMV) should be set at \$1.23 per AUM.

The \$1.23 FMV grazing fee was an increase of \$0.90 over the 1966 BLM grazing fee of \$0.33 and an increase of \$0.72 over FS 1966 grazing fee of \$0.51. Therefore, to alleviate the economic impact of a \$0.90 (BLM) and \$0.72 (FS) increase, a 10-year phase-in schedule was selected.

The new fee formula and schedule, announced by the Bureau of Budget on January 14, 1969, provided for: (1) annual adjustments to reflect the change in the average monthly rate per head for pasturing cattle on privately owned land as reported by Economic Research Service, USDA and (2) a 10-year phase-in schedule to reach FMV to minimize the initial economic impact to ranchers using public lands. For FS this represented \$0.072 per year and for BLM \$0.09 per year.

The Subcommittee on Public Lands of the Senate Committee on Interior and Insular Affairs held hearings February 27 and 28, 1969, (U.S. Senate, 1969) on the grazing fee issue. Similar hearings were held by the Public Lands Subcommittee of the Committee on Interior and Insular Affairs March 4 and 5, 1969 (House of

Representatives, 1969). All interested parties were given an opportunity to testify at these hearings. The livestock industry stressed an adverse economic impact, and contended that permit value should be included as a cost factor in establishing the fees. Conservationists supported the new fee system as a means of recovering FMV for the Government and opposed inclusion of permit value in the fee formula as they believed it would establish a right for the grazing permittee.

Also, in January 1969, the new grazing fee regulations were challenged by a segment of the livestock industry using public lands through suits filed against the Secretary of the Interior in the Utah District Court (Broadbent vs. Hickel, 1969) and against the Secretaries of Agriculture and Interior in the New Mexico District Court (Pankey vs. Hardin and Hickel, U.S. District Court (New Mexico)). Injunctive relief was sought against the new regulations in each suit. In both instances, the purpose and intent of the Congress and delegated Secretarial authority were issues. The courts dismissed the cases in favor of the Secretaries and found that it was not shown that the Secretaries had failed to consider all the factors as directed by Congress. The New Mexico case was appealed to the United States Tenth Circuit Court of Appeals. On June 1, 1970, the appeals court supported the lower court decision in favor of the Secretaries.

In 1969 FS grazing fees were increased from the 1966 average base-year fee of \$0.51 to an average of \$0.60 per AUM; \$0.072 for the first year share of the 10-year increment in accordance with the established schedule to reach FMV and \$0.02 to reflect change in current private grazing lease rates. The BLM grazing fees were increased from the 1966 base-year fee of \$0.33 to \$0.44 per AUM; \$0.09 for the first year incremental increase and \$0.02 for FMV adjustment (table 6).

A moratorium on a fee increase was put into effect for the 1970 fee year pending recommendations of PLLRC.

TABLE 6  
Grazing Fee History Under Present System

Fee Year	Annual Increment		Yearly FMV Adjustments	Fee Collected	
	Cumulative			FS & BLM (per AUM)	FS    BLM (per AUM)
	<sup>a</sup> FS (per AUM)	<sup>b</sup> BLM (per AUM)			
1968	\$ --	\$ --	\$ --	\$0.56 <sup>c</sup>	\$0.33
1969	0.072	0.09	0.02	0.60	0.44
1970	d	d	d	0.60	0.44
1971	0.144	0.18	0.13	0.78	0.64
1972	e	e	e	0.80	0.66
1973	0.216	0.27	0.18	0.91	0.78
1974	0.288	0.36	0.31	1.11	1.00
1975	f	f	f	1.11	1.00
1976	0.378	0.47	0.71	1.60	1.51
1977	g	g	g	1.60	1.51

<sup>a</sup>Phase-in annual rate of \$0.072 through 1975, increased to \$0.09 in 1976 to maintain schedule to reach FMV by 1980.

<sup>b</sup>Phase-in annual rate of \$0.09 through 1975, increased to \$0.11 in 1976 to maintain schedule to reach FMV in 1980.

<sup>c</sup>Forest Service average fee in 1966 was \$0.51.

<sup>d</sup>Moratorium awaiting report of PLLRC.

<sup>e</sup>Fee increase limited to 3 percent in support of Economic Stabilization Program.

<sup>f</sup>Moratorium in consideration of the difficult economic and drought conditions facing the western livestock industry.

<sup>g</sup>Moratorium as directed by PL 94-579, Sec. 401(a).

The 1971 FS fee was computed using the \$0.51 base-year fee plus the \$0.144 cumulative annual increment and \$0.13 to maintain comparability with private land grazing lease rates for a total average fee of \$0.78. The BLM computations produced a fee of \$0.64 for 1971 (table 6).

For 1972, the fee increase for both agencies was limited to 3 percent in support of President Nixon's Economic Stabilization Program and resulted in an average fee of \$0.80 for FS and \$0.66 for BLM.

The 1973 average FS grazing fee was computed using the \$0.51 base-year fee plus the \$0.216 cumulative annual increment and \$0.18 to maintain comparability with private land grazing lease rates for a total of \$0.91. The BLM fee increased to \$0.78 using the \$0.27 (\$0.09 times 3 years) cumulative annual increment and \$0.18 change in FMV (table 6).

For 1974 the average FS grazing fee increased to \$1.11 and BLM fee increased to \$1.00 per AUM (table 6).

The 1975 fees for both agencies were held at the 1974 level in consideration of the difficult economic and drought conditions facing the western range livestock industry. This moratorium on the scheduled increase for 1975 did not change the administration's basic policy that grazing fees would reach FMV by 1980.

Retaining the phase-in schedule to reach FMV by 1980 in equal annual increments required the determination of new annual incremental increases following the 1975 moratorium. Because of the moratoriums, only four incremental increases had been taken by 1975 for each agency. The FS accumulative increments had reached \$0.29 (4 years x \$0.072 = \$0.288) leaving \$0.43 out of the \$0.72 total to be phased-in over a 5-year period. Therefore, \$0.43 divided by 5 years equals 4 years at \$0.09 with a final year (1980) incremental increase at \$0.07. The BLM cumulative increments had reached \$0.36 (4 years x \$0.09) leaving \$0.54 out of the \$0.90 total to be phased-in over a 5-year period. Therefore, \$0.54 divided by 5 years equals 4 years at \$0.11 with the last year (1980) incremental increase at \$0.10.

Using the fee formula and the revised annual increments, the 1976 average FS fee was established at \$1.60 using the \$0.51 base-year fee plus the \$0.378 cumulative annual increment and \$0.71 to maintain comparability with private land grazing lease rates. The BLM fee increased to \$1.51 per AUM as a result of the \$0.47 cumulative annual increment and the \$0.71 charge in FMV (table 6).

On October 21, 1976, the Federal Land Policy and Management Act of 1976 was signed. Section 401(a) directed that there would be no grazing fee increase in the 1977 grazing year. This section also directed the Secretaries of Agriculture and Interior to conduct a study" . . . with a view to establishing a fee to be charged for . . . grazing . . . which is equitable to the United States and to the holders of grazing permits and leases . . . ."

## SUMMARY

Livestock grazing on public lands has always been part of the "modern" western scene and the expectation of free grass encouraged settlement of land areas not suitable for intensive farming. At one time, the public domain comprised a vast commons stretching from Texas to Canada open for grazing livestock without restrictions (Report of the Public Lands Commission, 1904). The withdrawals of Yellowstone National Park in 1872 and the Forest Reserves in 1897 from the public domain were the beginning of a system of Federal land reservations from unrestricted use and disposal. The first regulated use of Forest Reserves was set by the act of June 4, 1897 (Forest Reserve Act of 1897). Continued grazing of cattle within the Forest Reserves was permitted as long as no harm was done to the forest. After transfer of the Forest Reserves from the General Land Office to the Forest Service in 1905, the first grazing fees were imposed by regulation on January 1, 1906 (table 7).

From the turn of the century until the 1930s the public domain remained open to all uses on an unsupervised, first-there/first-use basis. After numerous efforts to pass legislation which would provide for supervised livestock use of the unappropriated public domain, the Taylor Grazing Act was passed on June 28, 1934. This Act granted the Interior Secretary authority to establish reasonable grazing fees and to regulate grazing use. The first fees were charged in 1936 at a rate of \$0.05 per head per month for cows and horses and \$0.01 for sheep (table 7). The establishment of regulations for the use of public lands for grazing recognized the integral relationship between public rangelands and the dependent private ranches.

The imposition of grazing fees has been strongly resisted by ranchers and the authority to charge fees was disputed for many years (Clawson and Held, 1957). Nevada stockmen obtained an injunction in 1939 from a Nevada district (State) court "restraining the Regional Grazier from interfering with their free use of the range." (Dewar V. Brooks, 60 Nev. 219, 106 P. 2d 755.) On May 26, 1941, the Supreme Court of the United States reversed the Nevada courts in the case of Dewar V. Brooks and upheld the Secretary's authority to charge a grazing fee (Foss, 1960).

During the period 1941 to 1946, FS average grazing fee was increased from \$0.16 to \$0.27 per AUM and the Grazing Service grazing fee stayed at \$0.05 per AUM (tables 1 and 2). Following a period of Senatorial hearings, rancher protests, and disapproval of the House Appropriations Subcommittee, the Grazing Service was reorganized into the Bureau of Land Management on July 16, 1946 (Foss, 1960).

From 1946 to 1968 FS average grazing fee was increased from \$0.27 to \$0.56 and BLM fee increased from \$0.05 to \$0.33 per AUM. During this period several agency fee reviews were conducted, the House Appropriations Subcommittee recommended higher fees, and the Bureau of Budget issued user charges guidelines. In 1966 a interdepartmental Western Livestock Grazing Survey was carried out to obtain information on private grazing land lease rates, and nonfee cost of using private and public grazing lands.

As a result of the 1966 Survey and the 1968 analysis, an FMV fee of \$1.23 per AUM was established for the 1966 base year. On November 15, 1968 the Secretaries of Agriculture and Interior proposed a new fee formula and schedule. The fee formula contained the \$1.23 FMV base level with adjustments annually to reflect the relative changes in private grazing land lease rates. The schedule provided for a 10-year phase-in period (1969 to 1978) to ease the economic impact on the users and to arrive at the same fee level for FS and BLM. The Bureau of Budget announced the new fee level and schedule on January 14, 1969, resulting in FS fee of \$0.60 (average) and BLM fee of \$0.44 per AUM.

The 10-year escalation toward FMV has been delayed because of four moratoriums occurring in 1970, 1972, 1975 and 1977. The target date for reaching FMV and the same level fee for FS and BLM is now the 1980 grazing season. For the 1977 grazing season the average FS fee is \$1.60 and BLM fee is \$1.51 per AUM.

TABLE 7

## Historical Summary of Grazing Fee Events

<u>Year</u>	<u>Event</u>
1897	First regulated use of Forest Reserves.
1900	Under the General Land Office, USDI, a permit was required on Forest Reserves; no fee charged.
1905	Forest Reserves were transferred to Bureau of Forestry, USDA.
1906	First Forest Service fees were imposed on ranchers and settlers accustomed to free and unrestricted use.
1906	Increases between 1906 and 1915 were accompanied by rancher discontent.
1916	Some members of Congress urged fees be increased.
1920	House Committee on Agriculture tried to get fees increased up to 300 percent, (Forest Service opposed this attempt).
1920	Comprehensive Rachford study of 1920-24 was conducted to provide basis for fair and justifiable fee.
1925	New fees from Rachford study were deferred because of objections from stockmen.
1926	Secretary of Agriculture appointed stockman Dan Casement to check the Rachford data.
1927	Secretary Jardine chaired a 1927 Grazing Fee Conference in Salt Lake City to "thresh out (what fees should be charged)."
1928	New fees were put into effect to escalate to set levels in 4 years.
1933	Fees were reduced because of economic conditions.
1934	Taylor Grazing Act established control over grazing on the public domain and directed that reasonable fees would be charged.

<u>Year</u>	<u>Event</u>
1936	First Grazing Service fees were set at \$0.05 per head per month for cows and horses. Forest Service was \$0.13 each.
1939	Nevada stockmen obtained an injunction from a Nevada district court "restraining the Region Grazier from interfering with their free use of the range."
1941	The Supreme Court reversed the Nevada courts in the case Dewar V. Brooks and upheld the Secretary's authority to charge grazing fees.
1941	Saunderson (Forest Service) Leech (Grazing Service) completed the Range Appraisal Study on Commercial grazing lease costs of an animal unit month of feed.
1941	Senator McCarran (Nevada) embarked on an investigation of the Grazing Service, USDI.
1941 to 1946	Congressional committees were in disagreement over grazing fees; House Subcommittee on Interior Appropriations deemed the fees too low and the Senate Subcommittee on Public Lands and Survey questioned the need to increase fees.
1942	Proposed grazing fees increase deferred because of the war situation, no increase during the duration.
1945	The Nevada Legislature passed a joint resolution protesting proposed fee increase and urged Congress to repeal the Taylor Grazing Act.
1946	On July 16, 1946, the Grazing Service was reorganized into the Bureau of Land Management and ceased to exist as a separate organization.
1946	The Nicholson Report, November 12, 1946, recommended that grazing fees be based on administrative costs.
1947	Barrett Amendment to the Taylor Grazing Act.
1950	Granger-Thye Act authorized Secretary of Agriculture to issue 10-year permits in regulating grazing use.
1952	Independent Agencies Appropriations Act called for user fees to be self-sustaining, uniform, and fair and equitable to the public and user.

<u>Year</u>	<u>Event</u>
1959	GAO, Comptroller General ruled fees too low and not uniform.
1959	BOB, (OMB) Circular A-25, called for Fair Market Value.
1960	Congressman Wayne Aspinall, (then Chairman, House Committee on Interior and Insular Affairs), requested revision of fees.
1961	President Kennedy instructed BOB to formulate user charges principles.
1962	Senate Public Lands Subcommittee under Senator Alan Bible (Nevada) held hearings on grazing fees.
1964	BOB formulated user charges guidelines in a report entitled <u>Natural Resources User Charges Study</u> .
1966	Western Livestock Grazing Survey to determine grazing costs and values.
1969	New fees system was implemented after review by industry, conservation, and farm groups. First of 10 incremental adjustments applied to reach FMV by 1978.
1969	Hearings on grazing fees were held by Public Lands Subcommittee of Senate and House Committees on Interior and Insular Affairs.
1969	The Secretaries of Agriculture and Interior were defendants in a New Mexico class action suit (Pankey vs. Freeman) and the Secretary of the Interior in Utah (Broadbent vs. Hickel) seeking injunctive relief against the 1969 grazing fee regulations and alleging the Secretaries acted illegally in failing to take capital investment into consideration.
1970	Moratorium on scheduled increases.
1971	Second of 10 incremental adjustments applied.
1972	Hearings on S. 2028 (Allot et al., bill on grazing) turned strongly on need for a statutory fee system.
1972	Fees limited to a 3-percent increase over 1971.

YearEvent

1973	Third of 10 incremental adjustments applied, FMV to be reached by 1980.
1974	Fourth of 10 incremental adjustments applied.
1975	Moratorium on scheduled increase. The President has said the schedule will be maintained to reach FMV by 1980.
1976	Scheduled adjustment applied.  The Federal Land Policy and Management Act was signed on October 21; Section 401(a) directed that there would be no grazing fee increase in 1977 and also directed the Secretaries of Agriculture and Interior to conduct a grazing fee study.
1977	Moratorium on scheduled increase.  Report of Secretaries on grazing fees to be submitted to Congress on October 21, 1977.

## FOOTNOTES

<sup>1</sup>The "Statistical Analysis of Market Lease Data" method of appraisal is essentially the method used in determination of base value of \$1.23 per AUM through the 1966 Western Livestock Grazing Survey.

<sup>2</sup>These nonfee costs include animals lost, veterinary changes, moving livestock to and from allotment, herding, salt and feeding, travel to and from allotment, water, horses, fence and water maintenance, development depreciation, and other miscellaneous costs. These nonfee costs on public lands are usually higher than the nonfee costs on private lands because of the additional conservation requirements and restrictions imposed on the livestock operation by the Federal agencies.

## CHAPTER 3

### ISSUES RELATED TO GRAZING FEES

#### INTRODUCTION

##### Treatment of Issues

Resolution of issues related to grazing fees has been handicapped by confusion and misunderstanding about the basis for establishing fees. Therefore, a number of issues have been identified for detailed discussion. Each issue to be discussed will be defined and throughout this report the term will use this definition. It is recognized other authorities have used the same terms with other definitions. This report does not attempt to reconcile differences with other definitions.

##### Alternative Viewpoints

For each issue discussed, the objective is to include the most significant viewpoints relating to the issue. Viewpoints previously developed and stated by Federal agencies, individual permittees, permittee organizations, conservation organizations, and other interested individuals or groups, are included. A primary source has been the comments received by the Task Force at public meetings, by mail, or available from other published material related to grazing fees (see Appendix B for public comments and statements). Linking of a specific argument or viewpoint with specific individuals or organizations is not intended.

#### ISSUES

##### Agricultural Income and Grazing Fees

This issue has been raised in terms of a number of criteria that might be applied to evaluate the appropriate approach to grazing fees: fair returns on investment, ability to pay, parity income, economic stability, fair share, equity, and fair income distribution. In response to the problem of agricultural income levels, the Federal Government has responded with price supports, incentive payments, production controls, acreage allotments, import and export restrictions, special income tax provisions, technical assistance, publicly financed research, and subsidies. These policies are intended to alleviate instabilities and relatively low income levels that have adversely affected agriculture in the United States. Each action was intended to cause redistribution of income so those producing agricultural commodities would have the "ability to pay" for their necessary purchases.

A complete discussion of the income distribution issue is far beyond the scope of this report. The discussion is limited to the relationship of income received by producers of cattle and sheep using public grazing lands as it is related to the level of grazing fees charged.

From time to time levels of income received by producers of cattle and sheep have declined below the returns of other business enterprises and below production costs; however, cattle and sheep producers do not all have their periods of low income at the same time. Livestock producers, with different enterprise mixes, have different patterns of economic return so that they are not all in an economic crisis at the same time. Permittees using Bureau of Land Management (BLM) and Forest Service (FS) administered lands, therefore, do not represent a single static or prevailing income distribution or economic problem, but many varying conditions. Most recently, from 1972 to 1977, livestock producers have been operating in a severe cost-price squeeze. While costs of operation have been increasing, prices received have remained stable or declined.

Livestock producers are unable to influence many of their production costs or the prices received for their products. However, those producers with grazing permits on FS or BLM lands can try to avoid large increases in grazing fees through negotiation with the agencies or through the normal political process. With incomes depressed in recent years, permittees have objected to increased grazing fees on the grounds that they do not have the financial ability to pay higher fees. They contend that the Government should consider agricultural income levels when setting grazing fees.

Although the Federal Government is concerned about the economic status of the livestock industry, it has been Government policy, restated in the recently enacted Federal Land Policy and Management Act (P.L. 94-579, Title 1, Section 102(a)(9), October 21, 1976), that, "...the United States receive fair market value of the use of public lands and their resources." The Government position is that the fee is not an appropriate subsidy or income support instrument. Therefore, the Government should charge the full value that grazing is worth in the market, leaving attempts to support and stabilize agricultural income to those programs having such purpose as their primary objective. If the Federal Government charged the permittees less than fair market value, the permittees would be favored over other livestock producers who do not have permits to graze Federal lands, and who are operating in the same cost-price squeeze. Fees at fair market value require only that permittees pay fees consistent with the nonpermittee ranchers in the community.

There are many other users of the Federal lands in addition to grazing permittees. These segments of the general public are also concerned about grazing fee levels. They are aware of the economic problems faced by the permittees, but generally favor a grazing fee based on fair market value for use of Federal lands. This viewpoint concludes that if grazing is low in economic value, then other uses may be more appropriate.

Some rural communities in the Western States rely heavily on the livestock industry for their economic base and major reductions in the size and profitability of the industry could hurt such communities. These communities are concerned that local permittee ranchers may be forced to cease their operations or sell to nonresident rancher interests. The users of the public lands for grazing are aware of their impact on the local rural economy and present it as a basis for their plea for lower public land grazing fees, believing the public land grazing fee policy should promote rural stability by being sensitive to their economic well-being.

The Government, policy directs FS and BLM to be concerned about and accept a responsibility for the stability of rural communities. The FS and BLM currently issue about 500 free use permits to residents of rural communities whose livestock are used to supplement their income as opposed to commercial livestock enterprises. This free use provides some economic relief for selected persons who use the public lands.

The objective of stability as applied to public land grazing has a degree of uncertainty as to its meaning and purpose. Many people currently commenting on the objective seem to mean economic stability of permittees' enterprises and of the related communities. It is not realistic, however, to expect the Federal agencies managing public lands to directly accomplish such an objective. Many factors (including prices of products sold, prices of items purchased, weather and market locations) all of which continue to change, are involved in economic stability. The FS and BLM do not control any of these factors. The agencies control only the use and price of grazing on public lands as one portion of the inputs into the livestock enterprise. The one thing the agencies can do is manage the land so a sustained, stable quantity of forage remains available both now and in the future. This stability of forage availability has indirect impact on economic stability.

An additional perspective on the relationship of agricultural income problems, or livestock industry income problems, to the grazing fees collected for using public land is illustrated in figure 3-1. Most of the beef cattle grown in the United States are in the 39 States other than the 11 western

# PERSPECTIVE

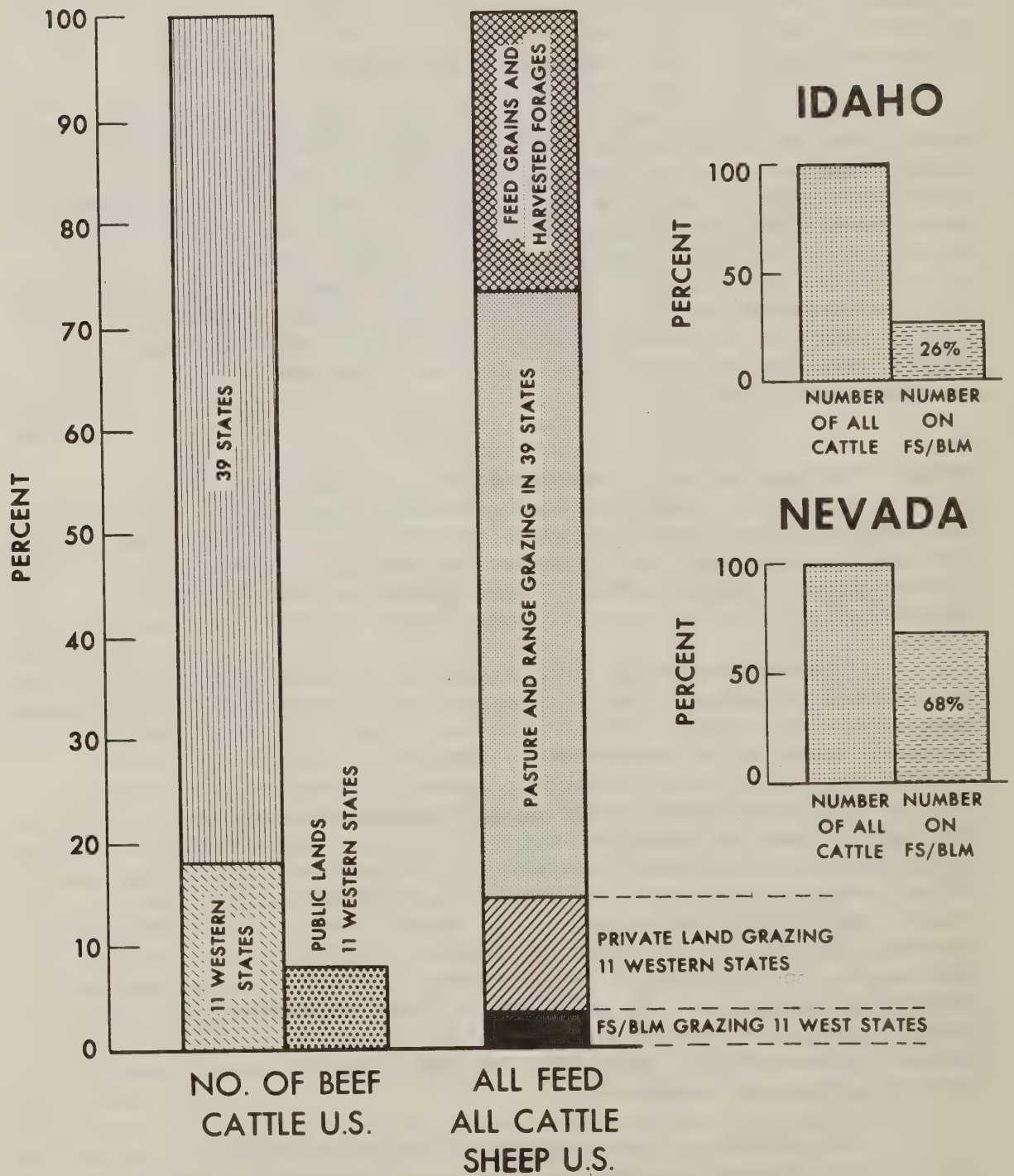


FIGURE 3 - 1

public land States. For example, on January 1, 1976, Florida had more than 1.4 million head of beef cows which is roughly equal to the total number of beef cows in Nevada, Utah, Arizona, and Washington. Similarly, Virginia had nearly twice as many beef cattle as Arizona, or Utah, or Nevada. The 11 Western States had about 18 percent of the beef cattle in the January 1, 1977, inventory. However, about one-half of the livestock in the Western States are on public lands administered by FS or BLM and while the Western States do not dominate the Nation's livestock industry, public land grazing is a highly significant proportion of total grazing in some Western States. For example, about 68 percent of the total cattle in Nevada graze at least part of the time on public lands. Permittees using Federal lands in the Western States are an important part of the livestock industry in the United States.

When viewed from the perspective of livestock feed consumed in beef cattle and sheep production in the United States, a similar relationship exists. Considering only the feed consumed by beef cattle and sheep, about 16 percent of the total feed came from grazing in the 11 Western States and 4 to 5 percent from FS and BLM administered lands. This illustrates that while the income problem of the livestock industry is significant, low grazing fees as a means of supporting income of the livestock industry would be ineffective because it reaches only a small portion of the livestock producers.

#### Tenure and Ranch Stability as Related to Deteriorating Rangeland and Decreasing Livestock Use

There are some grazing allotments that, for one reason or another, are declining in forage production and are no longer capable of sustaining existing permitted livestock levels in a cost-efficient manner. Consequently, two alternatives are available: either reduce the numbers of livestock grazed or undertake production-enhancing range improvements.

Unfortunately, some allotments do not have the capability of increasing production in response to range improvements and management practices at an acceptable cost. Therefore, the numbers of livestock allowed to graze on the lands must be reduced.

Reductions increase the per unit costs (cost per animal unit month) of using the allotment, since maintenance and other activities remain essentially the same, with the cost divided among fewer animals. Reductions may reduce the efficiency of the total operation and thus increase costs per unit on the private property as well. The permittees argue for reduced fees to compensate for their increased costs. Essentially, they argue the Government action increased the costs and, therefore, the

The opposing viewpoint stresses that fees represent the market price for grazing and, thus, are fair for whoever chooses to use the public lands for grazing. The fee is an average of all permittees and covers a wide range of operating costs, therefore, one permittee's cost per animal unit month (AUM) after a reduction in grazing may still be lower than that of many other permittees, because of his particular operating efficiency.

Finally, the Government is responsible only for assuring the public land grazing is available on reasonable permit conditions and at fees that reasonably approximate fair market value. The efficiency and profitability of the livestock operation are the responsibility of the permittee, as in the private sector.

### Commensurability and Base Property

Permits to graze livestock on public lands are allocated to ranch operators on the basis of certain qualifications. These include: their prior use of the lands before they were established as public lands; local needs for additional grazing to round out yearlong ranching operations; ownership or control of sufficient base ranch property to provide forage and feed for animals during the time they are not grazed on Federal lands and access to water necessary for grazing use.

A primary purpose of commensurability and base property as requirements for eligibility to obtain and hold a permit to graze livestock on public lands has been to obtain physically well-balanced livestock units through the combined use of public and privately owned grazing lands and to provide stability to the local rural communities. The intent is to assure local ranchers the opportunity for grazing on public lands. The permit specifies the number of animals to be grazed on the public lands, as well as the season of use. Annual adjustments in the amount of grazing allowed are made to meet the sustained grazing capacity of the range. Adjustments are made by changing the number of animals allowed to graze or by altering the length of the season.

If a permittee is dependent upon the public land grazing as an integral part of his overall operation, then changes in animals permitted or season of use directly affects his total operation. Removal of commensurability and base property requirements would provide opportunity for livestock owners from other areas to compete for permits, with negative effects on the resident ranchers and local rural communities.

This relationship of public grazing land to private land or water and the need for an overall balanced livestock operation, plus the reissuance provision, have resulted in efficient use of private base property lands being dependent upon the continued existence of public land grazing.

This, coupled with public land fees of less than FMV, has resulted in the creation and growth of permit value in private property sales.

Public land permittees contend that because of the interdependency of private and public lands through the grazing permit, the costs of developing base property should be considered as a cost of using the Federal land and allowed as a deduction in determining FMV for grazing on public lands. This position is defended on the basis that private development costs are necessary to qualify for the public land grazing permit. The viewpoint is also supported that capitalized value of investment in private land facilities, improvements, and equipment related to the livestock using public grazing land should be included in fee computations.

An alternative view is that costs incurred by permittees on their private lands should not be included in establishing the grazing fee. Expenditures on private lands vary greatly for the same level of public grazing. The value of grazing on public lands is not dependent on individual investment decisions of permittees. The concept of FMV relates to what public grazing would bring if it were sold under competitive market circumstances. Under this concept, private rancher investment costs for facilities on private lands are not a factor. A permittee should develop his private land to the degree he believes consistent with the tenure and other terms of the public land grazing permit he holds.

#### Permit Value

Public land grazing privileges have accrued substantial values. Purchasers of private grazing lands and livestock have been willing to pay large premiums to a seller in cases where the seller has a public land grazing permit. A portion of that premium known as "permit value" is a result of the differential between the fee paid for grazing on public lands and the economic or "true" value of the grazing use. The capitalization of the differential, then, is the permit value.

The permit value is commonly considered the permittee's private property and is included in the market price and loan value of the property. Other factors associated with the premium sales value, in addition to the differential between public fees and private rent or lease fees, include: improvements on private property related to the use of the permits; use of the public lands to provide the seasonal balance for the ranch feed requirements for livestock production throughout the year; location and accessibility to the public lands from the base property; current real estate market conditions; and the certainty of continuing

availability of the grazing permit. Other factors are involved in individual situations, some appreciating and others depreciating premium values. While all of these factors influence the premium value, permit value (as used here) is the capitalized differential between the total of fee and nonfee costs of using public lands and the comparable costs of using private grazing lands.

One of the major controversies over the determination of grazing fees concerns the use or nonuse of permit value. The 1966 fee study set the grazing fee to equalize total costs (fee and nonfee) of using either public or private land. A number of reasons are given why permit value should be included as a nonfee cost in determining the grazing fee. First, when base ranch properties are sold and the permit is transferred with the transaction, prices are inflated to include the permit value and purchasers have, in effect, "paid for the grazing permit." Real estate appraisers and bankers commonly include permit value in ranch appraisal statements and extend credit based on their estimates of permit values. The Internal Revenue Service requires payment of inheritance taxes based partly on estimated permit values, and some States tax leasehold values of tax exempt lands, including Federal grazing lands. Another reason given is that permittees believed permit values were going to be used in computing the 1966 base grazing fee. Finally, Government pricing policies have not captured the value of other permits, (e.g., interstate truck lines, broadcasting licenses, etc.), and, therefore, should not do so on Federal grazing lands.

The opposite view was given by Mr. Phillip Hughes, Deputy Director, Bureau of the Budget (now OMB), in the 1969 Senate Hearings on grazing fees (U.S. Senate, 1969): "If that (permit value) is built into the transaction and into the calculations upon which grazing fees are based, the effect of that computation is to forever preclude the public getting what seems to be its equity, which is, at least as I see it, fair market value for its property." Mr. Hughes concluded that the permit value should not be included in the calculation of the value of the forage.

The U.S. Supreme Court (U.S. Supreme Court, 1973) held that the Government is not obligated to pay compensation for actions which reduce permit value. The Court made the following comments. "To say that this element of value would be considered by a potential buyer on the open market, and is, therefore, a component of 'fair market value' is the end of the inquiry." (The reference to fair market value in this case is the total market value of the ranch unit not grazing fees.) Then, quoting from another case, the Court repeated: "It (the Government) need not compensate for value which it could remove by revocation of a

permit for the use of lands which it owned outright." And again in the U.S. v. Fuller, "We hold that the Fifth Amendment does not require the Government to pay for that element of value based on the use of respondents' fee lands in combination with the Government's permit lands."

The Government argues that permit values should not be included as a cost factor in grazing fee formulas. In this viewpoint the inclusion of permit value would give appearance of a property right to permittees using public grazing lands; it would reduce grazing fees without justification for the exclusive benefit of the permittee user group; and it would, in some cases, encourage grazing use to the detriment of range condition and of alternative uses. In essence, inclusion of permit value would allow permittees to retain the capitalized value of a public resource in their own hands, which conflicts with the view that the value of the public resource belongs in the hands of the general public.

It is clearly established that permit values exist and that low grazing fees, relative to economic value, are the origin of permit values. The consequence of increased fees on reversal of the process and eventual impact on permit value is not as certain. Permit value continues to exist although fees have increased, especially in the 1969-1976 period. For example, the 1967 Interdepartmental Grazing Fee Committee concluded "...no drop in permit values resulted when BLM increased its fee from 19 to 30 cents in 1963, " and "...permit values may have increased from (by) \$1 to \$2 during this period." Also, "Permit values may not prove to be a very 'sensitive' indicator of 'forage grazing values" (DeNio, et al., 1967).

Another comment on the consequences of including permit value was made by the staff of the Public Land Law Review Commission in its report on user fees (PLLRC 1970b): "The recognition of permit values in cost calculations is also questionable on economic grounds.

Although the permit is a required cost of entering into the grazing business on public lands, there is no logical reason why one particular form of investment should be singled out for favorable treatment. To include a present value on this investment would amount to a guaranteed return on one type of investment whereas the economic returns to ranching rightfully cover all investments. In effect, such investments are economically indistinguishable."

In summary, a primary consequence of permit value being included in the grazing fee formula would be that grazing fees paid by permittees would be lowered initially and thereafter would tend to be constant. Permittees who have "invested" in permit value when purchasing ranch property with grazing permits would be able to retain these investments in full. Fees would not constitute market value and the differential between private and public fees would be perpetuated. Grazing fee receipts would be lower and fewer Federal funds would be available for return to local governments and to the Range Betterment Fund for support of local range improvement programs.

#### Dominant Use

Many permittees argue that operators grazing livestock under private lease arrangements have exclusive use of the land, whereas permittees on public land must share that land with other user groups. Other users include recreationists, rockhounds, hunters, snowmobilers, and oil and mining activities. Therefore, permittees believe they should be given a cost consideration to compensate for the extra cost incurred. This cost item was one of several factors considered in the 1966 Western Livestock Grazing Survey and analysis. In both the private leases and public permits, the users were asked to provide their costs of operation, including those extra costs associated with having other users on the land. Consequently, the economic costs of other users were included in the development of the \$1.23 base fee.

Recently, a study of this issue in the National Grasslands area of western North Dakota determined there is nearly as much nongrazing use on private grazing lease lands as on the Federal grazing lands. (Leistritz and Schumacher, 1974). Out of 80 privately owned lands leased for grazing, 63 allowed hunting, and 66 allowed snowmobiling and other recreational activities. Costs to the rancher from abuse by other users appeared to be higher on public lands than private lands by about 2 to 1. However, these higher costs on public land were covered in the 1966 fee study, which caused a reduction in the base fee to compensate for the higher cost.

#### Comparable Land, Private Versus Public

Many permittees argue that certain factors associated with or distinguishing private land from public land should be reflected in the public land grazing fee. For example, they believe private lands are more productive and should "rent" for a higher price per unit than the "lower" quality public lands. They also argue the annual cash lease rates for private forage are for "better land" and, therefore, are not as suitable as a

for updating the 1966 FMV base fee. This controversy is primarily one of whether the grazing values should be comparable when the physical characteristics are different.

The first supposition has its roots in the historical fact that the public land system consists primarily of those lands that did not go into private ownership or some type of permanent Federal withdrawal for National Forests, parks, power and/or flood control projects. Generally, it is true that the private lands were selected by the early settlers because of their greater agricultural potential or for their strategic value in controlling water and access. However, several factors contribute to differences in the productivity and grazing value of rangelands. The measurement of productivity may be in terms of animal unit months for grazing purposes, or in terms of grazing animal performance for other purposes, or in terms of forage per acre. Regardless of how productivity is measured, it can be realistically valued only within the economic concepts of supply and demand from the relevant marketing area in which the forage is sold. The forage market area is large; for example, stockmen from Texas compete for forage as far away as Montana. However, for purposes of this discussion, a local market area will be considered, as in a situation where a given stockman grazes his stock on his private base property lands in the winter, moves to BLM lands in early spring, to National Forest lands in the summer, and back to BLM lands in the fall. This raises some questions: does each of these grazing lands contribute different values to his total operation? is an AUM of early spring grazing during calving and lambing time more valuable than the summer meadows while livestock are making rapid gains, or more valuable than the fall-cured grass, or more valuable than the winter grazing that sustains the pregnant animal during the winter months? Obviously the livestock producer must have feed for his livestock each day of the year. Therefore, all forage sources contribute equally to the total enterprise and are equally valuable. Scarcity dictates that the forage with the fewest substitutes will sell for the highest price.

Productivity factors per acre have been suggested as a means of setting grazing fees. If productivity, measured in acres per AUM, is an important variable in explaining the differences in grazing lease prices, then the productivity of public and private land should be similar if their grazing values are to be directly compared. Rangeland productivity is an important element in the quantity supplied part of the supply/demand equation but not necessarily a prime price determinant factor. All rangelands cannot be substituted for each other seasonally, nor are they all located so they can be substituted. Rangeland with a high productivity index, 1.5 acres per AUM, may be so located or

provide forage in a season when few ranchers could use it. Because of these factors, the price set in a competitive market for this grazing could be rather low. On the other hand, low productivity rangeland (10 to 15 acres per AUM) could be located where many ranchers could use it to winter breeding cow herds instead of feeding hay. In this case, the low-productivity winter use rangeland would lease for more money per AUM than the summer range. Use of forage quantity per acre to set grazing fees on public lands could result in some users being undercharged and others being overcharged because only the physical component of the price determinants was considered.

The effect of productivity on the nonfee costs should also be considered in setting grazing fees. Rangelands requiring many acres per AUM may also require more miles of fence per AUM, more water developments, and more acres of land traversed to perform the required management functions. Length of grazing season would also affect nonfee costs. The cost per AUM of moving animals is less if they are left on a range for 6 months instead of 3 months.

Another aspect of the forage quantity (acres per AUM) issue is range suitability. Most of the grazable forage in the hot desert rangelands is concentrated in areas along the drainages. Consequently, an animal using the hot desert rangelands may be grazing productive lands and not traveling any further to graze than animals on rangelands assumed to carry a higher number of animals per section. Thus, the argument that nonfee costs per AUM on the hot desert rangelands are higher than on pastures with greater production must be tested on an individual basis. Each block of rangeland has its own circumstances relating to nonfee costs, making it difficult to use productivity per acre as a means of varying fees because of nonfee costs.

When comparing lease rates (fees) on public and private lands, or on the same land over a period of time, the comparison is only valid if the same factors are included. A grazing lease price can include services such as caring for the animals while on leased land, or the lease price can cover only cost of making the land available for grazing and the tenant pays all of the nonfee management costs. Rangeland leases in the West cover the entire spectrum, from the lessor providing only raw unimproved rangeland to a situation where the lessor provides the land and forage, labor, management of the animals during the lease period, and shipment of animals to the lessee.

Rangeland may be leased on a per pound gain basis, such as \$0.185 per pound with animals averaging 1.8 pounds gain per day. Thus the cost of such a lease would be: 1.8 pounds per day x 30 days = 54 pounds per month; 54 pounds x \$0.185 pounds = \$9.99 per AUM. In the lease contract, the landlord may agree to

provide the pasture, provide and distribute salt, provide and distribute supplemental feed as needed, guarantee water for the cattle during the grazing season, allow the owner of the cattle to remove them at any time after giving 15 days notice, keep the lessee's cattle separate from other cattle, gather cattle, provide shipping pasture, load cattle onto trucks at end of season, account for death loss, and pay for all unaccounted death loss. The above lease at \$9.99 per AUM is not directly comparable to the fee on public lands. The costs of the activities itemized above (\$1.60 for FS and \$1.51 for BLM) to determine the total cost of using public lands.

#### Variation in Livestock Management Requirements

The recent emphasis on intensive grazing management of public rangelands is usually associated with some "system" of grazing supervision and/or control. These grazing systems conducted in accordance with management plans usually require the movement of livestock between pastures one or more times during the grazing season to insure that management objectives are met, including maintaining desirable vegetation. While some increased operating cost may be incurred by the livestock operator, there are usually direct compensatory benefits to the rancher, including increased and more stable stocking rates. Ranchers in the private sector are also intensifying livestock and grazing management on private lands through more intensive systems of grazing, indicating similar efforts on public lands have a sound economic basis.

Public rangeland management has moved from extensive to intensive grazing management practices, but there is no general agreement on the distribution of the benefits from these grazing management practices. Some permittees do not believe the additional livestock benefits are sufficient to offset their additional costs. Public land grazing fee reductions for increased permittee costs associated with intensive management practices are not appropriate when intensive practices result in benefits to the permittee equal to or exceeding his costs.

The 1966 FMV fee of \$1.23 currently used is based on estimates of relative costs on public and private grazing lands as of 1966.

Due to the generally increased level of livestock management on public grazing lands since then, it is contended that relative livestock management costs on public land versus private land have changed. Permittees assert that the grazing fee should be reduced to adjust for the increased operating costs as management on public lands is intensified. However, if livestock management has been substantially increased on private lands, the cost differential between public and private lands has not changed.

### Payment of Fees in Kind (Fees Paid by Labor or Materials)

An allowance could be made for payment of fees in kind. A portion of the grazing fee would be paid by labor or materials furnished by the permittee in lieu of a direct dollar payment. Two general benefits could result from payment of fees in kind. First, permittees would have the opportunity to use their own labor (perhaps surplus in some seasons) and materials to pay fees. This would reduce cash costs and, if surplus labor was available, then these range improvements might be constructed at no "real" cost to themselves. Second, permittees might be able to construct and maintain improvements at a significantly lower cost than when performed by the administering agencies.

The structure of the current (1969) grazing fee system gives the permittees credit for the dollars, labor, materials, etc., they invest in the allotment they use. This allowance was made in the nonfee cost differences determined in the 1966 fee study to develop the \$1.23 1966 base fair market value. Thus, the permittees are receiving credit for the higher costs on public grazing land over private leased lands for such items as animal losses, association fees, managing livestock, travel to and from the allotment, water costs, horse costs, maintenance, and depreciation of capital investments.

Permittees are now receiving certain allowances for their contributions on the allotments, but since these allowances are based on an average for all permittees, some inequities will exist. However, any change in policy to provide individual allowances for permittee contributions would require adequate (detailed) definitions of the coverage of current cost allowances and would require a change in the base FMV. Under the current fee system, only those items not now accounted for elsewhere would be eligible for payment in kind for grazing fees. Thus, since fence maintenance was credited in the 1969 fee structure, it could not be used again as a payment in kind, unless the base fee is adjusted.

### Variable Fees

The 1969 grazing fee structure consists of a single FMV fee for all livestock grazing users on public lands. This fee is based on overall averages. Consequently, it will be above the true value for some and below the true value for others. The desirability has been expressed to establish a variable fee to alleviate some of the inequities created by a single fee system. Fees could, in theory, be varied among geographic regions, BLM districts, National Forests, or even among individual allotments within BLM districts or National Forests. Differences in fees would account for measurable local differences in quality of

forage, costs of using the resource, amount of forage used per animal or per AUM, other user contributions, or to accomplish other management objectives of the administering agencies.

Prior to 1969, FS had a variable fee system by geographic areas, a residual of which remains in 1977; BLM has always had a one- fee system. It was anticipated that analysis of data from the 1966 survey would result in justification of a variable fee base for both FS and BLM. However, statistical analyses of the data by Arthur D. Little, Inc. did not provide a basis for differential fees among ranching areas, season of use, or size of allotment (U.S. Department of the Interior, 1967). Subsequent analysis of the 1966 Western Livestock Grazing Survey did not substantiate a basis for variable fees (Houseman et al., 1968)

Factors which could be examined further as a possible basis for variable grazing fees include:

1. Forage quality and quantity
2. Season of grazing
3. Size, kind, or age of animals
4. Range improvement credits for livestock and other uses
5. Multiple-use constraints for wildlife and other uses
6. Special grazing management requirements
7. Consideration of predator losses and other adverse impacts on animal production
8. Topography and distance between livestock water
9. Credit for wildlife use of private lands

The following is a discussion of variable fee factors:

#### Forage Quality and Quantity

This factor would take into account the difference between public rangelands that produce a high quantity of desirable livestock forage and other public rangelands that have a lower quantity of desirable forage. The argument is that an inequity exists when the same fee is charged for grazing on high- and low-productivity lands. For example, a rangeland grazing stocking rate of 5 acres per AUM should be of greater value to a rancher than one with a stocking rate of 20 acres per AUM. The relative differences between high- and low-productivity rangeland may be reflected in varying weight gains, varying calf crop percentages and varying production unit costs. The differential between higher and lower productivity acres will vary from year

to year, depending on rainfall, air temperatures, insects, forage species, and other variables affecting growth rates and defoliation for forage plants.

Forage quality is associated with the ability of forage to meet the nutritional needs of livestock. As an example, the native forage on a winter range might furnish 70 or 80 percent of a maintenance ration for a cow or ewe; while native forage on a spring or summer range might furnish 150 percent of a maintenance ration allowing for weight gains on the grazing animal. Forage quality as nutritional value is not a fixed or constant measurement and will vary by plant composition, by range condition, by growth stages, and by seasons.

The argument is made that a single fee system does not take into account the relative differences in forage quality and quantity between range areas. The 1966 survey and analysis attempted to develop a variable value based on forage quality, but significant differences could not be substantiated. Therefore, the situation remains that an accurate measurement of the economic value of forage quantity or quality is not available.

Intra-allotment differences in forage quality and production are just as variable as inter-allotment differences. A variable fee based on forage quality and quantity suggests the commercial value of rangelands for livestock grazing is directly related to one element of the lands, the density of desirable forage vegetation. However, public rangelands have many features and changing conditions that affect their economic value.

#### Season of Grazing

Nutritional values of grasses are usually highest when they are actively growing, and least when dormant. In general, ranch operators coordinate their livestock production practices with plant growth. The periods of green grass are coordinated with the lactating periods for cows and ewes, and rapid gain periods for nonlactating animals. The periods of slow forage growth or dormancy are associated with nonlactation, relatively slow rates of animal production, or animal maintenance. Because the calendar period for active plant growth varies in different parts of the western rangelands, season of grazing would have to be identified as periods of active or rapid growth and periods of slow growth or dormancy.

Some arguments for fees being varied, depending upon season, include the following: forage ingested per animal is usually less during periods of plant dormancy and fees might be varied correspondingly with changes in nutritional value; grazing in the active growth periods are more "productive", animal gains are greater, and consequently, fees could be increased for the active growth period.

Arguments against variable fees by season of use include the fact that although forage of lower nutritional value may be used during the winter grazing season, and perhaps, at greater nonfee costs, the forage may be worth more per unit because of alternative costs to support the livestock such as feeding hay or grain.

Most livestock weight gains actually occur during periods of active forage growth. Seasonal forage is required in fixed proportions for all seasons if there is to be a livestock production process. Under these conditions, it is difficult to argue that an AUM of forage is more valuable in one season than another.

#### Size, Kind, or Age of Animals

Varying fees according to size or age of grazing animals has been suggested. Most of sheep and goats are mature breeding animals, either with unweaned young, or dry (nonlactating). Weaned, but immature sheep or goats less than 2-years old are used almost entirely for replacement animals. This is a relatively small part of total sheep use, and a very small part of the total grazing use, from both sheep and cattle. The number of domestic horses is also a small part of the total number of domestic animals grazing public land.

By far, the largest area of concern with respect to differential fees for size of animals applies to cattle. The major argument is that yearling cattle require less feed than mature cattle, with or without unweaned calves, or five mature sheep with or without unweaned lambs.

Animal nutritionists generally agree the basal metabolic requirements of animals vary within 73 to 75 percent of their average weight (Kearl, 1970). The coefficient can be used to relate the requirement of various weights of animals to some given weight. For instance, the formula

$$\text{Animal Unit Coefficient} = \frac{W \cdot 75}{1,000 \cdot 75}$$

derives a coefficient for a given animal or average weight, W, in relation to an animal weighing 1,000 pounds. Obviously, coefficients could be calculated for any weight.

A net energy approach could also be applied. This approach is applicable to animals in growing and fattening stages, and may be applicable to mature cattle, with some reservation. The net energy approach has been used to consider both gain and

maintenance and suggests a close relationship to the relatively simple animal unit coefficient approach. Nutritional requirements could also be calculated from National Research Council standards, or standard textbooks (Crampton and Harris, 1969).

Based on this approach, several classifications could be used for establishing variable grazing fees:

1. A cow with nursing calf would have requirements of about 1.2 to 1.4 AUMs in relation to a nonlactating cow at a scale of 1.0.

2. Mature bulls and horses would have requirements at about 1.2 to 1.4 AUMs on the same scale.

3. Nonlactating cows would have requirements of 1.0 AUM. They comprise a small part of the inventory, perhaps 10 to 20 percent of the cow herd during grazing periods following calving on a short-season basis. When calving is on a short-season basis, then nonlactating cows comprise the major part of the cow inventory, perhaps 80 to 90 percent during their dry period. On a yearlong basis (6 months lactating and 6 months dry), cows and nursing calves would have a requirement of 1.1 to 1.2 AUMs whether calving is short-season or yearlong. The requirement for yearling cattle would vary depending upon weight, and a coefficient of 0.6 to 0.7 might be acceptable for yearlings on much of the public land areas of the West.

4. The requirement for nonlactating ewes in relation to the nonlactating cow substitutes at 5 to 1.

5. The requirements for lactating ewes, particularly those with twins, suggest less than a 5 to 1 conversion and substitution on the range may differ.

The argument for variable fees based on animal size is that nutritional requirements do differ, and fees should be varied directly with forage requirements and use.

In addition, with a single fee there is, in effect, a two price or multiprice system for the actual forage use. There is a higher price for forage for yearlings, cows without calves, and ewes without lambs than for cows with calves and ewes with lambs. The higher forage price for yearlings may discourage use of public range for yearlings even though greater use by yearlings may result in better utilization of rangelands since yearlings tend to distribute themselves better on less accessible areas of range. Moreover, a ranch operator retaining yearlings for use on ranges could have greater flexibility on both public and private lands and in use of harvested feed. If public range forage

becomes scarce before the end of the permitted use period, yearling steers or heifers scheduled for sale could be removed for early sale or placed on feed. Under the same circumstances, sale or feeding of breeding herd animals is often not a realistic economic alternative and the rancher may continue to use the overstocked range to the end of the permitted season with detrimental effects to the range, and, to some extent, the livestock.

There are arguments against variable fees including the fact that variations in animal weights and rates of gain are almost infinitely numerous among users and, if only two or three fee levels were considered, some users would still be above or below the established level. The problems of the two administering agencies also would be increased, as it would be necessary to have verified counts of permitted animals by age class. There may be problems of trespass in that cattle inventories of livestock grazed on public lands might be misrepresented. Inventories represented as largely yearling when, in fact, they are largely cows would result in underpayment of fees, and perhaps overuse of the range.

#### Fee Credits and Surcharges for Range Improvements

This factor relates to the costs some ranchers have incurred for construction and/or maintenance of range improvements on Federal grazing allotments. The argument is made that this extra cost factor is not required on private land grazing leases and, therefore, a grazing fee credit should be made to offset this extra cost of grazing on Federal rangelands. The argument continues that while the permittee is contributing to the construction of range improvements on public land to facilitate livestock use, and in subsequent maintenance, the permittee is not receiving measurable increase in either stocking rate or pounds of livestock produced. Range improvements that enhance other resource uses may provide more indirect benefits to the other uses than direct benefits to livestock grazing without any sharing in the relative cost.

Improvements having identifiable multiple-use specifications or benefits are generally financed from Federal agency funds and the permittees may or may not participate financially in the construction or maintenance costs. Range improvements outlined in intensive grazing management plans are those deemed necessary to implement management practices for the purpose of improving rangeland productivity and condition, and to mitigate adverse impacts on other uses.

The 1969 fee structure provided a cost allowance for the maintenance of fences and water facilities required of permit-

ees using Federal lands. An allowance was also made for depreciation of improvements which the permittee financed on the grazing allotment he uses. The allowance or credit made in the 1969 fee structure for improvement, maintenance, and construction cost depreciation is part of the difference identified between private and public lands. If the relative difference has remained the same from 1969 to the present, then there is no justification for additional credits.

Generally Federally funded range improvements serve both public purposes (watershed protection, wildlife habitat, and recreation), and range livestock production purposes that are specific to individual grazing permittees. A cost-sharing accounting system to recover the specific livestock-related cost of Federal investments may be equitable and appropriate. For any given range development project the livestock permittee's share of the total investment could be determined and his share could be recovered through the grazing fee system. A grazing fee surcharge could be calculated for the lifetime of the investment and collected over this same time period.

A cost sharing system to recover part or all of the permittee's share of public range developments would also provide a useful test of the merits of proposed projects. Since the permittee would be sharing the livestock-related portion of the investment, he could be counted upon to express his disagreement if the expected benefits were not commensurate with his share of the costs.

#### Constraints Resulting from Wildlife and Other Uses

Wildlife is a part of the environment, and the management wildlife is part of the management requirements of public land agencies. Permittees contend that fees should be reduced to compensate for their higher costs resulting from use by wildlife. The issue is primarily whether or not the multiple uses create costs which are not fairly assigned between permittees and the Government.

Some of the major wildlife species use the same forage plants as domestic livestock species. The preferences of elk and cattle for grass, and deer and sheep for succulent plants and browse, have been well documented. Seasonal habitats for the major game and/or endangered species of wildlife have also been documented. Competition with domestic livestock may occur where range and wildlife management is not adequate.

These factors directly affect grazing capacity for livestock. Further, vandalism and negligence by recreationists to livestock and range improvements reduce the value of grazing

various forage improvement schemes, and a host of other management practices. The improved management practices used in the private sector are the same kinds of improvements needed to develop and manage the public rangelands.

#### Consideration of Predator Losses and Other Adverse Impacts on Animal Production

Permittees believe predator losses are greater on public land than on private land. Reasons are centered around Government failure to use an effective coyote control program and the nature of the range landscape which makes the land a natural habitat for predators. Predator losses are identified as resulting from coyotes, bears, bobcats, lions, and feral dogs. However, most of the comments concern the predator losses resulting from an increased coyote population. Since permittees believe predator losses are greater on public land, they feel there should be an increase in cost allowance for predation, i.e., a fee reduction.

Predator losses have been given consideration in one item of the Federal land user costs - death loss of animals. A difference was recognized in the larger number of death losses on public land and this larger loss was reflected in a lower FMV for public land. The cost difference between public and private land was the second largest, \$0.23 per AUM. The only justification for a higher death loss cost allowance would be for any recent change in Federal land predator losses that is significantly different from predator losses on private lands. Available data do not support arguments that predator losses have increased faster on Federal lands than on private lands, but that death losses have increased on both.

An estimate could be made of added rancher costs due to predators, with additional reduction being given in the grazing fee. This approach would require determination of predator costs on an individual rancher or limited area basis.

#### Credit for Wildlife Use of Private Lands

The proposal for a variable fee system for grazing on Federal lands is based in part on the presence of wildlife as well as recreational uses of associated Federal, State, and private lands. The benefits of wildlife and recreation accrue in these areas to the individual recreationists as well as the general public. However, part of the cost for support of this wildlife may be borne disproportionately by individual landowners relative to their benefits from wildlife and recreation.

as they add to total cost. On the other hand, when forage is limited on public lands, a large segment of the general public feels that wildlife and recreation, as a public resource and use, should have first priority on the limited supply.

In those areas where forage is a major contributor to wildlife, and domestic livestock are competing with wildlife for the available forage supply, a fee variance for domestic livestock owners does not appear warranted. Obstructions (fences, canals, and roads), all of which may be useful for domestic livestock grazing, may have a negative impact on wildlife habitat. In effect, range developments are a tradeoff with wildlife habitat and recreation.

### Special Grazing Management Requirements

Management practices outlined in allotment management plans are those deemed necessary to assure effective range management programs, including proper consideration for other resource uses and the associated private lands. New management practices change the distribution of costs among activities. At issue is whether the new cost and cost distribution are appropriately divided between the permittees and the Government after accounting for the benefits available to each. The main consideration is that the accrued benefits will offset the cost of the proposed improvements.

The type of grazing system employed on public rangelands has an impact on the amount of herding necessary, and other managerial responsibilities of the rancher. Modification and updating of management systems often change these responsibilities. An adjustment might be made in the grazing fee for each rancher based on the level of his managerial effort required.

Such an adjustment would be difficult to estimate. Questions would arise as to whether an efficient rancher, who minimized managerial efforts, should be penalized by paying a higher grazing fee. The increased responsibilities associated with new management systems should be accompanied by corresponding benefits to the rancher in the form of increased livestock production.

Improved management techniques, which may result in added cost, are being used on a large number of ranches in both the west and east portions of the United States. The recent cost-price squeeze has made it imperative for livestock producers to turn to more effective practices to increase forage and livestock production. In doing so, the producer has used improved varieties of forage, additional and dependable sources of water, rotation grazing, added fencing to implement and manipulate

Such landowners believe their lands and range improvements, as well as their efforts to control predators who prey on both domestic livestock and wildlife, have not been fully recognized by the public. They believe these contributions, whether intended or incidental, have public value and should be considered as a public benefit. They indicate the cost of forage as well as the investment and cost of maintaining range improvements on their own as well as on public lands used by wildlife should be used as a basis for adjusting Federal grazing fees.

However, ranchers and landowners not having Federal grazing permits are supporting wildlife habitat and suffering predator losses. Extending a fee credit or variance to only those ranchers who use public lands would further disadvantage those who do not enjoy this privilege.

#### The Animal Unit Month and Grazing Fees

Considerable confusion has been generated by different uses of the terms, animal unit, animal unit month, cow month, and sheep month. These terms were initially defined for the purpose of convenient comparison of forage and feed requirements of livestock and later the conversion factors of animal unit month feed requirements were extended to include certain wildlife species. However, in addition to feed requirements, the terms are commonly used in discussion and determination of rangeland carrying capacity, stocking rates, and grazing fees (Kearl, 1970). For those purposes the terms are less desirable and sometimes inaccurate.

Problems of measuring carrying capacity (rangeland productivity), are discussed elsewhere. In the instance of grazing fees, the term animal unit month (AUM) has frequently been used to describe the unit for which a fee is charged. In actual practice, FS and BLM have charged fees based on an animal month basis. In addition, an animal month has been defined to include more than one animal, i.e., a cow with nursing calf less than 6 months old has been considered as an animal month.

An animal unit, as defined by the Society for Range Management, is one cow of about 1,000 pounds. Thus one cow on the range for 1 month is an AUM and a cow with nursing calf less than 6 months old is estimated to 1.1 to 1.3 AUMs.

In the 1966 Western Livestock Grazing Survey the information collected on grazing costs was tabulated and computed on an AUM basis (table 1). The base FMV of \$1.23 from that study applies to an AUM, one cow (without calf) for 1 month. In 1969, FS and BLM chose to apply the AUM rate of \$1.23 to the cow-calf (1.18 AUM) as opposed to the cow-month (1.00 AUM) and, in effect,

lowered the base fee. Generally the purpose of this decision was to recognize a traditional cow-calf, replacement stock concept (mixed herd concept) used by FS and BLM in previous fee application.

This traditional concept recognized that operators frequently have a combination of animals in the herd, a mixed herd or a cow unit, which includes cows, calves, replacement stock and bulls (ERS, 1976b). The fee has traditionally been applied to counters; that is, every animal over 6 months of age counted as a unit for which the fee was (and is) charged. Therefore, a paid unit might be a cow, a cow and calf, a bull, a replacement heifer if over 6 months of age, and steers over 6 months. Of these, only the one cow for 1 month is actually equal to the AUM as defined.

The primary justification for charging in this manner is the traditional use and historical fact that many, if not most, permittees grazed such mixed herds. Recently, increased intensity of livestock management has changed herd management and resulted in the division of herds into appropriate units. Therefore, many permittees now graze a cow with calf herd separately from replacement stock or other yearling cattle.

Given the available information, it is appropriate that the 1966 base value of \$1.23 be applied to a cow month or 5 sheep months. In 1966 values, this permits application of a cow-calf rate of \$1.45, a yearling-month rate of \$0.92, a sheep-month rate of \$0.2460 (\$0.2450), a ewe-lamb rate of \$0.2915 (\$0.2925), and a horse-month rate of \$1.54 (table 1).

The current FS and BLM application results in deviations in actual charges versus the appropriate charges based on an AUM. Permittees grazing herds of cows with calves and bulls are undercharged by about 18 percent. Permittees grazing cows with calves, bulls, and yearling replacement heifers equal to 20 percent of the number of cows are undercharged by about 8 percent. (Replacement heifers at 20 percent allows complete replacement of cows every 5 years, a common practice.) Those running cows with calves, bulls and yearlings equal to the number of cows are overcharged.

The designation of separate rates by category could permit the establishment of a variable fee. The effects of this variable fee application are: (1) allows ranchers to choose to graze yearlings without financial penalty; (2) recognizes the major segment of variation in the quantity of feed consumed by different animals; and (3) increases fees by 18 percent for permittees who primarily graze cows with calves on public lands.

TABLE 1

Animal Unit Conversion Factors Used in 1966  
Western Livestock Grazing Survey

Category	Factor
Cattle	
Cow without calf	1.00
Cow with calf	1.18
Weaned calves	0.50
Yearlings (unbred herfers)	0.75
Bulls	1.25
Steers (1 and 2 years of age)	1.00
Sheep	
Ewes without lambs	0.20
Ewes with lambs	0.237
Weaned lambs	0.15
Yearlings	0.18
Rams	0.22
Wethers	0.20
Horses	1.25

Source: Unpublished data, 1966 Western Livestock Grazing Survey.

The use of livestock forage requirements as a means of establishing the stocking rate for an allotment has important limitations. Forage or feed consumption alone fails to recognize other factors involved in providing livestock grazing. In addition to providing feed, BLM and FS grazing permits provide a place for the animals to live, including necessary improvements such as water developments, management, and fencing. Forage consumption does not include recognition of varying environmental impacts on the land by different sizes and kinds of livestock. Thus, while a herd of yearlings may consume the same amount of forage as their AUM equivalent numbers in cows, the larger number of yearlings may have adverse impacts on other areas of the allotment not normally grazed by cows. In addition, nutritive requirements and values are not fully recognized as indicated by the following excerpt (Clawson and Held, 1957):

An animal-unit month, used as a unit of measure of grazing does not represent an amount of feed which is always constant or equal of volume or nutritive value. While by definition it is enough feed to carry one animal unit for 1 month, this may vary from only a maintenance level to a growth or higher level ration. The volume of feed consumed by one animal unit also varies greatly between livestock of different ages, but it is customary to count all cattle above the age of weaned calves as equivalent to animal units and count five sheep as equal to an animal unit with no allowance for unweaned lambs. The nutritive requirement of a ewe with suckling lamb is far higher than that for a yearling unbred ewe, for instance. Even if the volume of feed and nutritive values were constant, its value might differ greatly dependent on the location of the grass and the market, just as the values of other feeds and other commodities vary between locations and over time.

It is not expected that the application of a fee to an AUM as discussed here will fit all of the variations in size and kind of animals. First, the animal unit is a rough approximation at best, with individual animals within a general category having widely different feed requirements. Second, the nonfeed aspects of the value of grazing an area are not reflected. Third, the intent is to set fees for broad ranges within the category. Thus the fee for a cow month is intended to include all the mature cows whether they weigh 700 or 1,300 pounds. The cow with calf fee would include not only cows of different weights but also calves weaned at 250 or 500 pounds; yearlings, as used in this fee application, might range in age from 6 months to 18 months and in weight from 250 to 800 pounds.

## Mechanics of Fee Formulas

### Reflection of Long-Term Versus Short-Term Changes in Value

Procedures have been established or recommended for changing fees through time. Adjustments can be: (1) set for a long period of time, e.g., 5 to 10 years; (2) made in response to short-term (2-4 years) average movements in key indicators; or (3) made annually.

Adjusting fees based on movements in indicators established over a longer period (10 years) gives permittees more certainty about what fees they will be charged. A 10-year average period would likely include observations for both high and low points of a cattle cycle. Therefore an average of good and bad economic years for livestock producers would be reflected in public land grazing fees. Long-term averages are not, however, sensitive to current market conditions and do not adjust quickly.

Fees based on long-term averages are more stable, and they tend to become viewed as fixed prices. Alternately, fees that are responsive to yearly or short-term changes in the livestock economy are more variable. Short-term averages, if kept current with a moving average series, are more responsive to current market conditions than long-term averages. A short-term moving average suffers from the same shortcomings as a long-term average, by slow adjustments to year-to-year changes in market conditions.

The other extreme is a value indicator, which changes the fee, based on data for only 1 year. Such an indicator would be responsive to changes in market or climatic deviations with only a 12-month lag. In general, the shorter the term on which fee values are adjusted, the more consistent the fees are to current fair market values. However, fee changes based on 1 year's data have the potential for great change from the previous year's values, and consequently, are more apt to increase conflict between agencies and permittees.

Any procedure that keeps the fee more reflective of current conditions in the market increases permittee uncertainty about the future level of fees. Fees based on long-term averages are more stable over time. They do not, as do fee adjustments based on short-term or yearly data, reflect current market (fair market values) conditions. Fees more sensitive to current market conditions are also less likely to accrue producer surpluses, which are often capitalized into permit values.

Experience in other agricultural sectors with base period norms has not been very successful. The 1910-14 base for the parity formula is now viewed by most economists as an obsolete concept. Technology and agricultural structure change sufficiently through time so that any base period has the likelihood of becoming outdated.

#### Use of Moving Averages

Moving averages, whether based upon 5, 3, or 1-year periods, adjust slowly with technological, structural, and/or economic changes. Even if the averages are related to some base period by an indexing procedure, they focus attention on the relationship to preceding years and makes the base of less consequence.

The length of the period used in a moving average need not be the same for each variable used in a fee calculation. The most frequently mentioned measures to include in a fair market value formula are an index of private land lease rates, an index of beef prices, and an index of the price paid for production input items. Each of these items has different characteristics with respect to the rates of change, year-to-year variability, the extent to which they are influenced by national versus local or region markets, and the weight which they do or should receive in a fee determination formula. Therefore, the length of the period included in an average and the means by which the years included in the average are weighted and updated should reflect the nature of the statistical parameters associated with the data.

#### Use of Nationwide Versus 11 Western State Data

Under the 1969 grazing fee system, data used to develop the \$1.23 FMV fee were collected in and from the 11 Western States. Data used in the private grazing land lease rate index are from the same 11 Western States. Data for the 11 Western States are used throughout the 1969 fee procedures.

The proposals to change the formula include questions concerning the origin of data, i.e., should data be from the 11 Western States or can some nationwide data be used? The question arises because some data are available only on a national level. For example, the only data available for production item costs (the prices paid indexes) are for the entire United States.

In order to orient national data to the 11 Western States area, some specific data can be collected from the Western

States and used to weight the national data to bring it in line with western livestock production situation. Some argue the data used should be collected as close as possible to their operations. They reason that local data more accurately portray the local situation, and are, therefore, more equitable to permittees.

Most input and commodity prices are influenced at the national rather than the regional level and regional differences from national price movements tend to be very small. Regional differentials may exist because of transportation and distribution costs associated with distances from central markets, but the trends in regional and national price series are almost parallel, resulting in national data being as useful in determining fees as is regional data.

Beef prices and production cost items at the regional level closely follow national price movements for these same measures. The price of private land lease rates give some appearance of being regionally specific. Differences occur in private land lease rates within relatively small regions. These differences in lease rates are likely associated with such factors as accessibility, service provided along with grazing, special or unique relationships existing between landlords and tenants, and local traditions in leasing arrangements.

#### Selection of Base Years for Indexes

The subsequent level and change in an index value are determined by selection of a base year or base period. The index value may rise when one year or period is chosen, and may decline if another base year or period is chosen. A normal year (one which contains little distortion from random occurrence) is desirable. If a base period is longer than 1 year, it should include an average of normal situations.

When possible, a base year should be changed as technological changes are adopted. More distant base years allow accumulated changes to be measured only in the new prices portion of the index. New indexes are restricted to a base year which is the initial year until a data series is established. A new base year can be chosen in an established series that meets the criteria. For example, the beef price index would show a downward direction since 1974, if 1974 was the base year chosen. Cattle prices were frozen for a time preceding 1974 which caused marketing patterns to change. It would not be representative of prior or subsequent marketing and price patterns. Prices paid by farmers for production items have been an ongoing index series and selection of a base year would appear to present fewer difficulties.

## Selection of Items to be Included in Price Indexes

The Index of Prices Paid by Farmers measures the change in prices paid by farm families and is made up of five major components. The two most important components are the index of prices paid for commodities used in farm production and the index of prices paid for commodities used in family living. These two indexes comprise the Index of Prices Paid by Farmers for Goods and Services. The remaining three components of the index are: (1) interest charges per acre on mortgage indebtedness secured by farm real estate; (2) taxes payable per acre on farm real estate; and (3) wage rates paid to hired farm labor.

The two major indexes within the Prices Paid by Farmers Index are stratified further into 18 group indexes. The commodities used in the Farm Production Index are divided into 12 group indexes - feed, feeder livestock, seed, fertilizer, agricultural chemicals, fuels and energy, farm and motor supplies, autos and trucks, tractors and self-propelled machinery, other machinery, building and fencing materials, and farm services and cash rent. The Family Living Index is divided into six groups - food, clothing, housing, autos and auto supplies, medical and health, and education, recreation, and other. As of June 15, 1976, the farm production component of the index included 169 different commodity price series; the family living component 152 items - for a total of 321. Prices for 25 items are used in both family living and production indexes leaving a net of 296 separate price series.

In the Family Living Index the medical, health, education, recreation, and other indexes are based on Consumer Price Indexes from the Bureau of Labor Statistics, and are excluded from the commodity price series count.

Price data used in the computation of the various indexes are collected largely by mail from independent and chain stores serving rural areas. Separate commodity price estimates are made for both independent and chain stores as of the 15th of the quarterly month. These separate price estimates are weighted together to obtain averages of prices paid by farmers for most family living and farm production items. In other months, prices are estimated only for chain stores which provide the basis for current index computations for the interquarterly months.

The U. S. commodity prices are computed by weighting State estimates of average prices by the estimated quantities of products purchased by farmers in each State. United States average prices are then combined into the group indexes, using as weights the estimated quantities of the individual commodities purchased

by farmers based on a 1971-73 survey of farmers' expenditures. Official data of the Agricultural Research Service and the Agricultural Marketing Service are also used to supplement the survey indications.

Group indexes are combined into their respective family living and production indexes, using percentage weights representing the estimated proportion of expenditures of farmers for each commodity group. These were also derived primarily from the 1971-73 Expenditure Surveys. The family living and production indexes are, in turn, combined into using weights representing the proportionate expenditures for these two segments. In like manner, all commodities, interest, tax, and wage rate components are weighted on the basis of relative expenditures, for the index of Prices Paid by Farmers.

Items used in a Prices Paid Index represent costs incurred and demonstrate the magnitude of change in prices. It does not show changes in the total cost of production because it does not include the quantity of input by firms as well as prices.

The Prices Paid Index needs to include items used in western beef cattle production if it is used with beef prices in a grazing value measure. The Technical Committee's proposal would be to use the Index of Prices Paid needed to comprise an index to reflect cost of production of cattle producers in the United States and would use items from the Index of Prices Paid of motor supplies, motor vehicles, farm machinery, farm supplies, building and fencing materials, interest per acre and wage rates. Weights could be derived from the 1975 Meat Animals Cost of Production Survey conducted by USDA. The "new" index could then be used as an approximation of the changes in price of items and in cattle production in the 11 Western States. Such a price and index would be subtracted from a Beef Price Index. The resulting combined index multiplied by a base fee would result in the annual fee.

The Statistical Reporting Service, USDA, publishes beef cattle prices for all States and for the United States. This price is comprised of a weighted average of (1) steer and heifer prices and (2) slaughter cow prices. An allowance, if necessary, is made for slaughter bulls. Data used in making these commodity estimates include prices from market news sources, tabulated auction sales data, and survey data from individual farmers. State data are then weighted by historic beef cattle marketings by month for each State to establish the monthly beef cattle price for the United States. A similar series is established for lamb prices. Using basic data of the Statistical Reporting

Service, it is possible to compute the annual average price for beef cattle and lambs for any grouping of States.

In determining fee changes or levels, the following concepts need to be considered. The prices received index may need to be more inclusive of products produced on rangeland. Sheep as well as cattle prices, weighted in some quantity mix, would reflect value of both species and, to some degree, seasonal use value of grazing public lands. Another inclusion in the Prices of Beef Cattle Index, which would relate derived demand for product produced, would be inclusion of prices for calves. Over the past 3 to 4 years some evidence exists that trends of the market price for calves (the primary output of grazing) have deviated from past patterns and may not return to previous patterns. This is an effect caused by changes in feed prices relative to slaughter beef cattle prices. Although slaughter cattle prices have declined slightly, the prices received by producers of feeders for their product have declined more rapidly and fluctuated more frequently.

The Technical Committee suggested factors that should go in the index of prices paid and beef cattle prices (see Appendix A). These factors would be selected as those most closely related to the actual livestock operation costs in the Western States and that would be appropriate factors to cause changes in grazing fees.

Although calves are the primary output for ranching operations, the Technical Committee proposed the use of beef cattle prices excluding calves. This exclusion reflects that prices for calves are quite volatile from year to year. Consequently, they do not uniformly measure the changes in value of forage. A Beef Cattle Index (without calves) would be more stable and would indicate the change in value of breeding and replacement stock.

#### Private Grazing Land Lease Rate (PGLLR) Data and Collection

The private grazing land lease rate index was used in the current (1969) fee system. This index was used because of the manner in which it relates to the grazing fee. As developed, the FMV fee is the difference between the total cost to the livestock owner of operating on private leased land, including the private lease rate, and the total nonfee cost of operating on public grazing lands. If the nonfee costs were the same on both types of land, then the FMV fee would equal the private lease rate. Since the nonfee costs are greater on public land than on privately owned leased lands, the fee is less than the private

lease rate in order to make total costs equal. Consequently, the private lease rate in the 1966 study was \$1.79 and \$1.77 for cattle and sheep, respectively. The FMV fee on public lands was \$1.23 as an average for cattle and sheep. Although these fees are not of the same absolute value, they are directly related. A measurement in the change in the private lease rate will give the percentage change required in fee on public lands. Changes in nonfee costs of production are caused by changes in the market and should have the same effect on both private and public land users.

The data collected on private grazing land lease rates on a per head per month basis are a measurement of changes in the costs of private lease rates. Therefore, an index measuring the rate of change in the private lease rate could be properly applied to FMV fee.

When the private grazing land lease rate index (PGLLR) was developed, the absolute value of the lease rate was \$3.65 per AUM. This is substantially higher than the \$1.79 or \$1.77 used in the 1966 study cost comparisons. The reason for this difference is that the \$1.79 figure includes fewer services provided by the landowner while the \$3.65 figure includes more services. In the current (1969) fee system, the percentage change from year to year in the PGLLR is used to determine the percentage change in both the grazing fee on private lease lands without lessor services and the public FMV grazing fee.

Data for construction of the \$3.65 PGLLR during 1964-76 were obtained annually by the Statistical Reporting Service, USDA, on the average rate for pasturing cattle on nonirrigated privately owned land on a per head per month basis. These data are collected in March each year on a general farm questionnaire mailed to a list of farm operators. The question on pasturing cattle on privately owned, nonirrigated land is summarized and provided to the Economic Research Service, USDA, for analysis and publication. The permittees have not been satisfied with the private grazing land lease rate index, arguing that the data represent nonlivestock uses, that typical leases in the private sector are not negotiated on a head per month basis, and that those responding to the survey question are not making proper transition from the actual existing lease to the head per month lease basis.

The Government has supported the private grazing land lease rate as being a good indicator of long-term adjustments taking place in the western range livestock industry. It duplicates economic adjustments in the competitive private sector, and

incorporates changes in technological efficiency. The 1969 fee system does not increase the public land grazing fee to the same level as the PGLLR but uses it to measure the percentage change from year to year and to apply that percentage change to the \$1.23 base value for 1966.

The Technical Committee argued that the private grazing land lease rate adequately measures the long-term trend in grazing fee values. However, they questioned the ability of the index to reflect short-term instabilities that result during periods of disequilibrium. Thus, the index would fail to account for short-run adjustments in resource valuation. For this reason, the Technical Committee proposed a procedure that includes both an index of beef cattle prices and an index of production item prices in addition to the index of private grazing land lease rates.

Some of the challenges to the adequacy of PGLLR data need to be considered. The PGLLR data need to be examined to determine to what extent they are influenced by: (1) recreational or hobby ranching; (2) speculative leasing (operators speculating on a near-term increase in livestock prices, basically "inners and outers"); (3) lease rates in which a special relationship exists between the lessor and lessee; and (4) the amount of services provided by the lessor along with the grazing.

#### Sampling Procedure for Private Lease Rates

In order to obtain a large enough sample to adequately cover many geographic locations, forage conditions, forage types, etc., the 1966 grazing fee study included a very large number of observations of private lease rates, including most of the private leases existing at that time. There was no effort made (other than to exclude irrigated lands), to insure that the characteristics of the lands in the sample corresponded closely with the characteristics of the public rangelands. Private leases which, for a variety of reasons, were not competitive were not excluded.

In 1966, the private grazing land lease rate was estimated at an average of \$3.65 per AUM. The estimate for 1977 is in excess of \$7.00 per AUM. The PGLLR survey excludes irrigated lands. The question is raised as to whether the private lease rates included in the 1966 grazing fee study were based on a proper sample and, if so, why the results differed so markedly from estimates obtained from the private grazing land lease rate survey.

There is a perception that market rates for forage in the West are in reality well above the \$2.15 1977 estimate for FMV under the 1969 fee system estimating procedures. In this

view, even allowing for differences in costs between public and private lands, the \$2.15 figure is justified only if, in fact, public grazing value corresponds to the lowest part of the distribution of private forage rates. For example, the public forage leased competitively by BLM in the McGregor Range, which leased for about \$1.50 per AUM at the time of the 1966 fee study is now leasing for over \$5.00 per AUM (Appendix C).

## SUMMARY

The foregoing has presented and discussed some of the issues related to the grazing fees. Among the more important issues is the fact that periodically in the past and currently during the 1972 to 1977 period, livestock operators throughout the United States operate in a cost-price squeeze. Livestock permittees on Federal lands would like to hold their costs down by having the grazing fee held at a minimum level, rather than allowing it to go to fair market value. The Government contends it should be collecting fair market value as the best measure of equity and to assure there is no competitive advantage of permittees over private land lessees and private landowners.

In general the permittees would want to retain the permit value and would like it to be included as a cost factor in the grazing fee formula. On the other hand, the permit value, if used to reduce the base fee, is inconsistent with the policy of collecting FMV.

Another issue is the question of variable fees. However, based on the knowledge available, there is inadequate statistical support for variable fees.

Other issues include future tenure and ranch stability in the face of declining ability of some allotments to sustain current livestock use. Dominant use on private lease grazing land versus a permittee on public land having to cope with multiple use.

The issue of commensurability and base property is also discussed. Permittees have stated that because of the interdependency of private and public lands tied to a permit, the costs of developing base property should be a cost of using the Federal land and, thus, should be included in the formula for determining fair market value. The intent of commensurability and base property, however, has not been to make permittees dependent upon the public lands but to use as eligibility requirements to provide stability to the permittees' operation and to the local rural communities.



## CHAPTER 4

### ALTERNATIVE FEE DETERMINATION PROCEDURES

#### INTRODUCTION

Seven basic alternative procedures for determining fees are presented in this chapter. First, the 1969 fee system, established in 1969, is discussed. The second alternative is a revision of the 1969 system. The third alternative is the procedure initially recommended in 1973 by the American National Cattlemen's Association (ANCA). The fourth is the proposed procedure included in the House of Representative's version (H.R. 13777) of the Federal Land Policy and Management Act of 1976. A fifth is the proposal of the Technical Committee which is a combination of the 1969 and ANCA procedure alternatives. The sixth alternative was proposed by the American Farm Bureau Federation (AFBF) and is a modification of the Technical Committee proposal. Finally, competitive bid systems are outlined.

All of the proposals, except competitive bidding, require establishment of a base fee and a means of changing the fee over time to account for changing circumstances. A bidding process would provide current value in the market place.

Following the coverage of basic fee determination procedures is a discussion of variable fee options. These options can be added to any of the basic fee determination procedures mentioned above except competitive bidding. The bidding process, by its very nature, would reflect variable conditions.

#### METHOD FOR EVALUATING THE ALTERNATIVES

Placing the alternatives and variable options in perspective requires that they be evaluated as to how well they meet the objectives of the grazing fee system (Chapter 2). The following questions summarize the objectives used to measure the effectiveness of each alternative:

1. Does the fee system appropriately estimate fair market value (FMV)?
2. Is the fee system equitable among and between the interested groups and individuals?
3. Does the system prevent future discrepancy between the fees charged and FMV?

4. Can the fee system be used by both BLM and FS?
5. Is the fee system administratively feasible?
6. Does the fee system use a reliable, uniform and available data series?
7. Does the fee system contribute to stability of ranching operations and surrounding local communities?

The section following the discussion of the alternatives, indicates how each alternative performs in relation to the objectives.

#### ALTERNATIVE FEE SYSTEMS

##### Current (1969) Fee System

This fee system is composed of four elements:

1. The \$1.23 FMV grazing fee per animal unit month for the 1966 base year. This value was determined from analysis of 14,000 questionnaires in the 1966 Western Livestock Grazing Survey.
2. The adjustment process between the actual fee charged a permittee in 1966 and FMV of \$1.23. Initially, the difference between the agencies' 1966 fee and FMV was to be eliminated in 10 equal annual installments in order to minimize the impact of the increase.
3. The annual adjustment of the 1966 FMV of \$1.23 by the rate of change of the private nonirrigated grazing land cash rental rate for pasturing cattle per head per month (ERS, 1977c). This index of change (sometimes called Range Forage Index - RFI, Forage Value Index - FVI, Private Grazing Land Lease Rate Index - PGLLRI), does not mean that Federal land grazing fees were to be increased to equal the private rate for pasturing cattle, but the annual rate of change would be applied to \$1.23. The purpose of applying the rate of change to \$1.23 is to keep the Federal land grazing fee current with changing economic conditions and related changes in the value of grazing privileges or near FMV.

4. Adjustments made necessary by the several delays (moratoriums) in the implementation of fee increases. While not strictly a part of the system, discussion of these moratoriums is necessary to understand how the fees were actually established for any year since 1969.

#### Base Fee

The 1966 base FMV fee of \$1.23 per animal unit month (AUM) was determined by the process discussed in Chapter 2, History of Grazing Fees. In essence, FMV is defined as that value added to the nonfee cost (Chapter 2, table 5) of operating on public grazing land so the total cost of grazing on public land equals the total cost (nonfee plus private lease rate) of operating on comparable privately leased grazing land.

#### Base Fee Adjustment Process

The adjustment was determined as follows. The base FMV of \$1.23 is a 1966 value. The average grazing fee for FS in 1966 was \$0.51 per AUM. The difference between 1966 \$1.23 FMV and the 1966 FS grazing fee is \$0.72 which was to be collected in 10 increments of 10 percent each year or \$0.072 (table 1). Thus, the 1969 fee, without adjusting for the change in FMV, would be \$0.51 plus \$0.07 or \$0.58. Each year thereafter, for 9 consecutive years, the fee was to be determined by taking the previous year's fee plus the 10 percent increment, plus or minus the change in FMV as determined by the change in the PGLLR index. However, several moratoriums were declared on fee increases so that full FMV, which would have been reached in 1978, will not be reached through the 1969 system until some later date.

An identical process is used for BLM fees, but the BLM fee was \$0.33 in 1966 and the annual adjustment to be made was \$0.09 (table 1).

#### Annual Updating of FMV

When the \$1.23 per AUM FMV grazing fee was implemented in 1969, it was necessary to construct an index to update the grazing fee in years subsequent to 1969. Major criterion in formulating the index was that it directly reflect those forces in the market place that influence changes in market price for grazing leases. The index had to reflect what was happening in the private grazing land lease market, otherwise the grazing fee would soon be obsolete and no longer reflect FMV. If this happened, the 1966 Western Livestock Grazing Survey or its equivalent would be required at regular intervals to reestablish FMV.

TABLE 1

Adjustment in Base Grazing Fee for Implementation of 1969 System

	Average FS Fee	BLM Fee
1966 fee	\$0.51	\$0.33
1966 FMV	<u>1.23</u>	<u>1.23</u>
Difference	\$0.72	\$0.90
Divided by 10 (annual installment)	\$0.072	\$0.09

The index was developed using the price per head per month for grazing cattle on privately owned land in the Western States. These data are collected in March of each year by the Statistical Reporting Service (SRS) and published annually by the Economic Research Service (ERS), U.S. Department of Agriculture (USDA), in Farm Real Estate Market Developments. The \$3.65 base for the index was developed using data for the 5-year (1965 to 1968) period. This period provides 2 years before and after 1966 in order to provide a more stable base.

The \$1.23 FMV is updated each year according to the percentage change in the private grazing land lease rate. For example, in determining the 1972 public land grazing fee, the private grazing land lease rate for 1971 of \$4.06 was used. The increase from \$3.65 to \$4.06 was 11 percent. This 11 percent increase applied to \$1.23 gave a 1972 FMV of \$1.37 (table 2).

### Moratorium

Several moratoriums on grazing fee increases have served to complicate the fee computations. The progressive steps in computation are shown by year in table 3, which illustrates the procedure for computing fees.

The initial adjustments were increments of \$0.072 for FS and \$0.09 for BLM and were to be completed in 1978. After the moratoriums occurring in 1970 and 1972 (partial), the time schedule was extended first to 1979 and then to 1980. When the fee moratorium was declared in 1975, the Government decided not to extend the adjustment period beyond 1980. Therefore, the remaining 6 increments were to be taken in 5 years and the annual increments were increased so the adjustment would still be complete by 1980. The FS increment was increased from \$0.072 to \$0.09 per year and BLM increment was increased from \$0.09 to \$0.11 per year.

The 10-year process (by 1980 or 12 years as now scheduled), would eliminate FS variable fees and the difference between BLM and FS fees. It was intended to have one fee for all public lands administered by BLM and all Western National Forests by 1980.

The relationship between the various data items in the 1969 fee system is illustrated in figure 4-1. Forest Service data are used in this figure and are representative of general concepts as well as BLM data. The figure is conceptual in that only data for 1966 and 1977 are plotted.

TABLE 2

## Annual Updating of Base FMV to Maintain Fair Market Value

Data Year	<sup>a</sup> Fee Year	Private Grazing Land Lease Rate	Index (1964 to 1968 = 100)	Public Grazing Fee at FMV
1966	....	\$3.65 <sup>b</sup>	100	\$1.23
1968	1969	3.75	102	1.25
1969	1970	3.82	105	1.29
1970	1971	4.05	111	1.36
1971	1972	4.06	111	1.37
1972	1973	4.17	115	1.41
1973	1974	4.57	125	1.54
1974	1975	5.82	159	1.96
1975	1976	5.75	158	1.94
1976	1977	6.37 <sup>c</sup>	175	2.15
1977	1978	7.06 <sup>c</sup>	193	2.38

<sup>a</sup>Data applies to following year in setting the fee.

<sup>b</sup>5-year average 1964 to 1968 = \$3.65.

<sup>c</sup>Adjusted from nine-State average to 11-State average.

TABLE 3

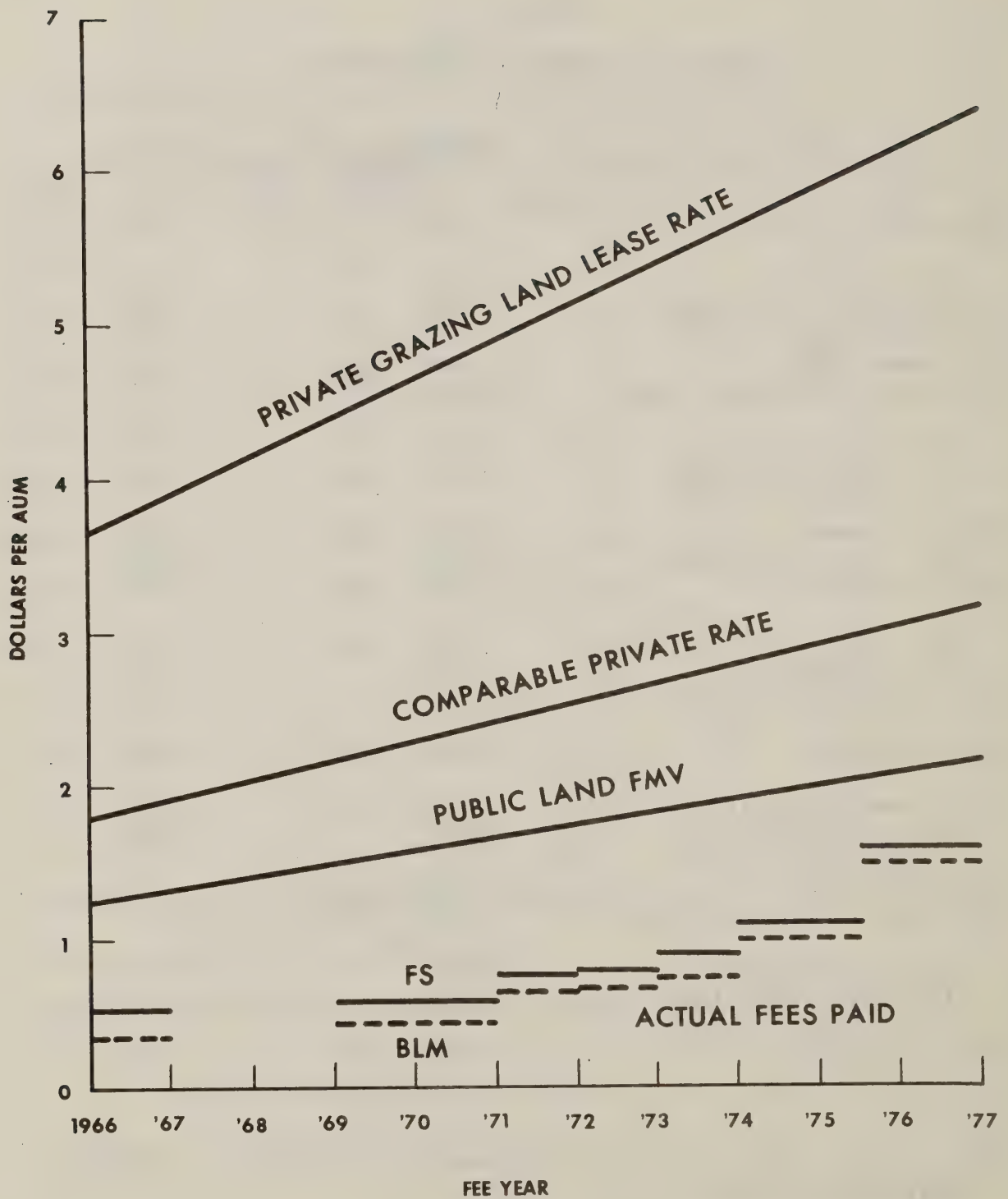
## Example of Grazing Fee Computations

Item	FS Average Fee (dollars per AUM)		BLM Fee
1966 base fee equals	0.51		0.33
Add installment #1	0.072		0.09
Add change in FMV 1966 to 58 (1.25 - 1.23)	<u>0.02</u>		<u>0.02</u>
1969 fee equals	(0.602)	0.60	0.44
1970 fee (moratorium) equals	(0.602)	0.60	0.44
Add installment #2	0.072		0.09
Add change in FMV 1968 to 70 (1.36 - 1.25)	<u>0.11</u>		<u>0.11</u>
1971 fee equals	(0.784)	0.78	0.64
<sup>a</sup> Add 3 percent increase	<u>0.02</u>		<u>0.02</u>
1972 fee equals	(0.804)	0.80	0.66
<sup>b</sup> 1971 fee	0.784		0.64
Add installment #3	0.072		0.09
Add change in FMV 1970 to 72 (1.41 - 1.36)	<u>0.05</u>		<u>0.05</u>
1973 fee equals	(0.906)	0.91	0.78
Add installment #4	0.072		0.09
Add change in FMV 1972 to 73 (1.54 - 1.41)	<u>0.13</u>		<u>0.13</u>
1974 fee equals	(1.108)	1.11	1.00
1975 fee (moratorium) equals	(1.108)	1.11	1.00
<sup>c</sup> Add installment #5	0.09		0.11
Add change in FMV 1973 to 75 (1.94 - 1.54)	<u>0.40</u>		<u>0.40</u>
1976 fee equals	(1.598)	1.60	1.51

<sup>a</sup>Fee change limited to 3 percent as consistent with the 1972 Economic Stabilization Program.

<sup>b</sup>The 1973 fee computed by starting with 1971 data.

<sup>c</sup>Because of the three delays in adding installments (1970, 1972, and 1975) and an Administration decision to complete the installments by 1980, it was necessary to revise the amount of annual installments so that the six remaining installments of the original 10 could be taken in 5 years, the last in 1980. Therefore, the installments increased: \$0.072 to \$0.09, \$0.059 to \$0.074, and \$0.09 to \$0.11.



## SCHEMATIC OF VALUE RELATIONSHIPS

FIGURE 4 - 1

The change in the private grazing land lease rate (figure 4-1), is the driving force in changing the comparable private use rate line and the public land FMV fee line. Data collected show an increase in PGLLR from \$3.65 to \$5.57. When  $\$5.75 \div \$3.65 = \$1.745$ , then  $\$1.745 \times \$1.79 = \$3.12$  and  $\$1.745 \times \$1.23 = \$2.15$ .

The actual charge (fee) changed from \$0.51 to \$1.60 based on the accumulated change in FMV fee and the installments taken. Comparisons of the data illustrated in figure 4-1 are shown below:

Figure 4-1 illustrates that while PGLLR increases and fees increase, the public land grazing fee never equals the private rate.

1966 fee = \$0.51 (average FS fee)

The difference between fee charged and FMV was \$0.72 in 1966.

1966 FMV fee = \$1.23 (computed from 1966 survey)

The difference between FMV and the comparable private rate was \$0.56 in 1966 and represented the higher cost of using public land as compared to using comparable private leased land.

1966 private lease = \$1.79 (computed from 1966 survey)

The difference between the comparable private lease rate and PGLLR was \$1.86 in 1966 and was due to the amount that PGLLR, for various reasons, exceeded the comparable private rate in 1966.

1966 PGLLR = \$3.65 (average for the 1965-68 period)

By 1977, the values and differences had increased as follows:

1977 fee = \$1.60---\$0.55 difference between fee charged and FMV.

1977 FMV = \$2.15---\$0.97 difference between FMV and comparable private lease rate.

1977 private lease = \$3.12---\$3.25 difference between private lease rate and the PGLLR.

1977 PGLLR = \$6.37

Thus in 1977, while FS fees are \$0.55 below FMV, the amount by which the comparable private lease rate exceeds public land FMV has increased to \$0.97. This difference of \$0.97, which increased from \$0.56 in 1966, accounts for higher costs of using an allotment on public land as compared to using an area of private leased land. Similarly, the difference between the comparable private rate and PGLLR has increased to \$3.25. The procedure provides for increased dollar allowances for nonfee costs as price levels increase.

If the goal of reaching fair market value by 1980 remains unchanged, then the fee for 1978 under this system can be determined. The residual of the \$0.72 and \$0.90 adjustment is now \$0.34 (FS) and \$0.43 (BLM). This adjustment will be taken in 3 years, 1978, 1979, and 1980. Therefore the increment for 1978 will be \$0.11 (FS) and \$0.14 (BLM). The FMV has increased by \$0.44 since 1976.

Thus:	<u>FS</u>	<u>BLM</u>	
	.51	.33	Original
	+ .38	+ .47	Increments to 1977
	+ .71	+ .71	Update in FMV to 1976
	+ .44	+ .44	FMV to 1978
	<u>+ .11</u>	<u>+ .14</u>	1978 Increment
	\$2.15	\$2.09	

Therefore, under the 1969 system and related assumptions, the 1978 fee will increase from the 1977 fee by 34 percent for FS average fee and by 38 percent for BLM fee. The large size of the increase is a function of increasing the size of the increment and of 2 years' accumulation of increases in FMV. The size of the increase is not an accurate reflection of how the system works but rather of the accumulated impact of the moratoriums and the scheduled changes. Figure 4-2 illustrates the operation of the 1969 Fee System from implementation through 1977.

#### Modified 1969 Fee System

The 1969 fee system is modified for this alternative to include significant improvements. One modification is improvement of the data collection process for private grazing land lease rates. Data are currently collected by the SRS March Farm and Ranch Report Questionnaire. The questionnaire is mailed to a general purpose list of farmers who may or may not own or manage cattle or sheep. From this yearly mailing of about 12,500 questionnaires in the 11 Western States, an average of 990 persons respond annually, and the index is based on these responses.

# 1969 FEE SYSTEM

( BLM DATA ONLY )

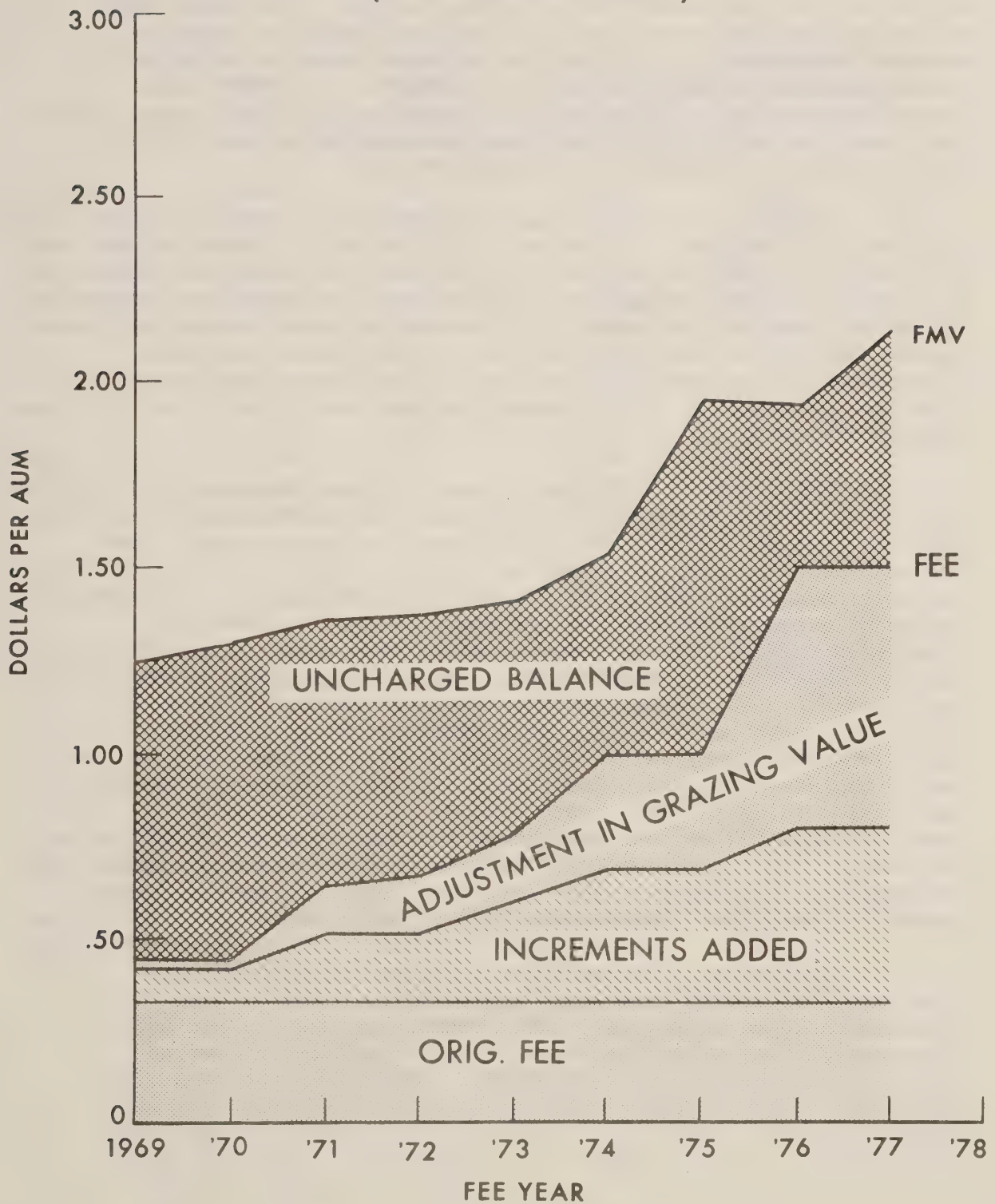


FIGURE 4 - 2

The SRS also has probability surveys in the 11 Western States which can be used to collect additional data. Because of the improved quality of these surveys, the resulting information provides a more reliable estimate of the charges for pasturing cattle per head per month in the private sector. The PGLLR index of charges for cattle per head per month rate does not require precise measurement to indicate the relative value of an AUM of public grazing. Because the rate of change is the only factor used in public land grazing fee determination, it is only necessary that the rate of change be properly measured without specific measurement of the services and requirements.

Collection of data using the probability surveys cannot be retroactive to 1966. Therefore, it is necessary to assume the 1964 to 1968 5-year average of \$3.65 per head per month from the March Farm and Ranch Report questionnaire is the appropriate base for development of the index. This assumption seems reasonable because the values come from the same private market universe. Comparisons of the data collected in 1977 and subsequent years from each of the surveys will permit further testing of this assumption (table 4).

The comparisons of the 11 Western State averages of \$7.06 from the March Survey and \$7.29 from the June survey indicate the same general results are achieved by both surveys. The Multiple Frame Survey (July) average for six States of \$7.61 compares favorably with the \$7.67 six State June data. It appears the added data support the expectation that the June and July surveys do measure the same aspects of private lease rates and the responses from the March survey were not inaccurate, regardless of the general quality of that survey. The data collected by the new questions added to the Enumerative Survey and the Multiple Frame Survey fully substantiate the prior and continued use of the Private Grazing Land Lease Rate as a measure of changing grazing value in the private sector. These surveys only asked for such information from those persons who were in the business of cattle production. In addition, those persons were not required to respond if they felt they could not appropriately answer the question. (Appendix C Part 1, SRS data).

The means of scheduling the transition for 1966 fee levels to the 1966 FMV fee level are modified. The 10-year schedule has been delayed so that 9 years have expired and only 53 percent of adjustment has been made. Therefore, a revised method for achieving FMV is necessary. Scheduling the remaining adjustment will be subject only to the restriction that the rate of change for any one year is limited to 25 percent of the fee of the prior year. By limiting the rate of change in any one year, the fee will not have the large adjustments required if fees moved directly to FMV. However, it should allow fees to reach FMV in 1980 or 1981.

TABLE 4

Comparison of Results of Different SRS Surveys of Private  
Grazing Land Lease Rates in the 11 Western States, 1977

State	March Survey	Multiple Frame Survey			
		June Enumerative Survey			
		Combined <sup>a</sup>	List	Area	
Dollars Per Head Per Month					
California	8.50	8.61	8.88	8.45	8.91
Colorado	6.60	6.98	7.10	7.67	7.08
Idaho	6.20	6.74	6.80	6.81	6.81
Montana	7.30	8.55	8.64	8.75	8.63
New Mexico	5.80	5.67	5.38	5.69	5.36
Wyoming	7.70	7.98	7.67	8.73	7.61
6-State Average		7.61	7.67		
Utah	6.90		4.90	6.12	4.85
Washington	5.80		6.89	6.27	6.93
Oregon	5.30		7.02	6.16	7.13
9-State Average	7.20				
Nevada			2.83	1.98	3.52
Arizona			4.28	3.89	4.51
11-State Average	7.06 <sup>b</sup>		7.29	6.80	7.32

<sup>a</sup>Combination of the two parts of the survey, that is response from sample list of names and from sample areas.

<sup>b</sup>Reduced by 2 percent reflecting the historical relationship of the 11-State average to the 9-State average.

Under the 25-percent limitation provision, grazing fees during the adjustment to FMV level could not exceed the limit regardless of the change in FMV. The following table shows the maximum fees per AUM under this provision.

<u>Year</u>	<u>FS</u>	<u>BLM</u>	<u>FMV</u>
1977	\$1.60	\$1.51	\$2.15
1978	2.00	1.89	2.38
1979	2.50	2.36	2.61
1980	2.72	2.72	2.72

These data illustrate only how the limit on change would function and values beyond 1978 are designed solely for that purpose. The data do not support an expectation of fair market value to exceed \$2.50 in 1979; however, the example shows the same increase as for 1977 to 1978 (\$0.23), for a fair market value of \$2.61. In the example, fees in 1979 would not move to the \$2.61, but stop at \$2.50 for FS and \$2.36 for BLM because of the 25-percent limitation. If fair market value was to move to \$2.72 in 1980, an \$0.11 increase (the average of 1966 to 1978 has been about \$0.10 per year), then the 25-percent limitation would not be necessary and the fees charged for both agencies would be \$2.72, the FMV level. The 25-percent level is selected as large enough to permit reaching FMV by 1981.

The relationship between fees for 1978 from the 1969 Fee System and this alternative is shown in figure 4-3. The impact of the 25-percent limitation, in effect, reduces the fees in 1978. The 25-percent limitation is justified by the desirability of limiting the impact of fee increases on the permittees by spreading the adjustment over several years. This is the same rationale that justified the 10-percent increment approach used in the 1969 Fee System.

After FMV has been reached, a limit of 12 percent will be imposed to control the rate of change from year to year. It is justified on the basis of giving the permittees some assurance of costs, allows them to anticipate changes and make appropriate plans. The selection of 12 percent is somewhat arbitrary but was determined by increasing the 1966 to 1977 average rate of change of 9.4 percent to 12 percent. This would allow all changes that have occurred historically to take place except for the 27 percent increase in 1975 (table 5). The limitation would also preclude decreases of more than 12 percent. The lower limit is necessary to assure the system does not take several major declines in value and, because of the 12-percent increase limitation, could require many years for the fee level to recover back to FMV.

# ALTERNATIVE FEES FOR 1978

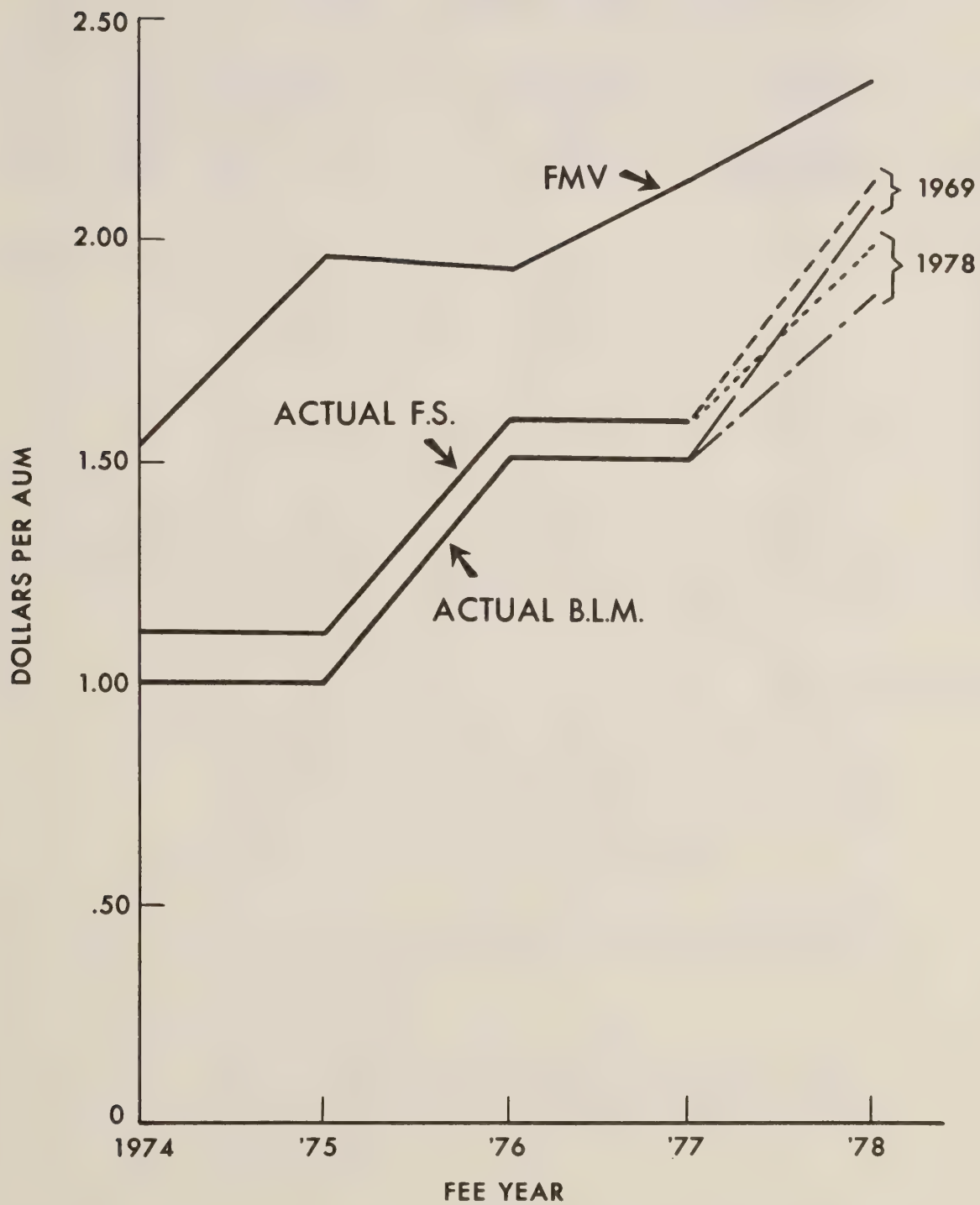


FIGURE 4 - 3

TABLE 5

Impact of Establishing a Percentage Limit  
on the Amount of Annual Change in FMV Fees

Fee Year	FMV (1969 System) dollar/AUM	Actual Percent Change from Previous Year Percent	Increase in FMV Allowed with a Percentage Limit of		
			10%	12%	15%
1965	1.18		-----No Impact-----		
1966	1.23	4.2		"	
1967	1.25	1.6		"	
1968	1.25	0.0		"	
1969	1.25	0.0		"	
1970	1.29	3.2		"	
1971	1.36	5.4		"	
1972	1.37	0.7		"	
1973	1.41	2.9		"	
1974	1.54	9.2		"	
1975	1.96	27.3	1.69	1.72	1.77
1976	1.94	-1.0	1.86	1.93	1.94
1977	2.15	10.8	2.05 <sup>a</sup>	2.15	2.15

<sup>a</sup>Remains below FMV

## American National Cattlemen's Association Proposal

In October 1973, the American National Cattlemen's Association (ANCA) proposed a new index to the Secretaries of Agriculture and Interior to replace the Private Grazing Land Lease Rate Index in the 1969 system currently being used by FS and BLM. The proposed index is a combination of indexes of livestock prices and "cost of production". The proposal would change the annual adjustment procedure and not the base FMV of \$1.23 (table 6).

The combined index (CI) grazing fee formula as proposed by ANCA would result in the following:

1. The 1966 base value of \$1.23 per AUM would be retained.
2. The incremental adjustment procedure would remain the same and by 1980 FS and BLM fees would be a single fee at FMV level.
3. Adjustments for changes in FMV would be made annually on the basis of CI rather than the Private Grazing Land Lease Rate Index. The CI would be used to compute FMV for the following year's fee in the same manner as the Private Grazing Land Lease Rate Index.
4. The proposed CI would consist of a Beef Cattle Price Index that would increase or decrease with changes in beef cattle prices and a Prices Paid Index (PPI) that would increase or decrease with prices of items used in production. The CI would equal the BPI minus the PPI plus 100.
5. The BPI would be an index of the weighted average annual prices for beef cattle (excluding calves) for the 11 Western States. The base would be 1964 to 1968 = 100.
6. The PPI would be an index of prices paid by farmers for commodities and services, interest, taxes, and farm wages as collected and published by SRS in Agricultural Prices. The base would be 1964 to 1968 = 100.

The comparison of implied fees for the 1969 system and ANCA formulas illustrates the general differences. The 1969 system index has a general increase over the 1965 to 1977 period and relatively few fluctuations. The ANCA proposed index moves

TABLE 6

American National Cattlemen's Association Proposal of  
October 1973, used to Compute Implied Fee<sup>a</sup>

Year Data	Beef Cattle <sup>b</sup> Price Index (BPI)	Production Items Prices Paid Index <sup>c</sup> (PPI)	Combined <sup>d</sup> Index (CI)	Fee Year	Implied Fair Market Value \$/AUM
1958	103	88	115	1959	1.41
1959	106	89	117	1960	1.43
1960	94	90	104	1961	1.28
1961	95	90	105	1962	1.29
1962	101	92	109	1963	1.34
1963	95	93	102	1964	1.25
1964	85	94	91	1965	1.12
1965	95	96	99	1966	1.22
1966	104	101	103	1967	1.27
1967	104	102	102	1968	1.25
1968	110	106	104	1969	1.27
1969	123	111	112	1970	1.38
1970	125	115	110	1971	1.35
1971	136	123	113	1972	1.39
1972	154	128	126	1973	1.55
1973	198	148	150	1974	1.85
1974	170	170	100	1975	1.23
1975	165	184	81	1976	1.00
1976	160	197	63	1977	.77

<sup>a</sup>Letter to Secretaries of Agriculture and Interior; formula is FMV = ((BPI-PPI)+100))x(1.23 ÷ 100).

<sup>b</sup>Beef cattle, excluding calves, prices for 11 Western States, 1964-68 average = 100 = \$22.24 per cwt.

<sup>c</sup>Index of prices paid by farmers for all commodities, services, interest, taxes and wage rates, 1967 = 100 index adjusted to 1964-68 = 100.

<sup>d</sup>(Beef cattle price index minus prices paid index) plus 100 = Combined Index.

up and down in response to changes in beef cattle prices relative to changes in prices paid. The 1969 system results in an average FMV for the period of 1965 to 1977 of \$1.48, while the ANCA proposal results in an average of \$1.28. The ANCA proposal results in a 13-year average fee about 14 percent lower. In 6 of the 13 years, the ANCA proposal would have resulted in a lower fee than the 1969 procedure.

However, in recent years the CI falls sharply. This drop may or may not represent the general profitability of beef production enterprises. In general, the formula would be expected to reflect the trend in profitability of beef cattle enterprises. The formula is identical in concept to the "Parity Index" developed in the 1920s as a measure of farm income, except in this formulation only beef cattle prices are related to the Prices Paid Index. The Prices Paid Index covers all items used by all farmers in production and family living and is not as specific to the beef cattle enterprise as are beef prices.

#### House Interior and Insular Affairs Committee Proposal

The House of Representatives, 94th Congress, included in H.R. 13777 (later S. 507), May 13, 1976, a proposal for determining grazing fees. The fee proposal was deleted by the Senate-House Conference on S. 507. This proposal would establish grazing fees for 1976 at \$1.70 per AUM for lands requiring less than 11 acres per AUM of grazing and \$1.40 per AUM for lands requiring 11 or more acres per AUM of grazing. The average is estimated as \$1.51. Thereafter, the annual fee would be adjusted up or down in accordance with an index derived by adding 100 to a beef cattle price index (BPI) and subtracting a prices paid index (PPI).

The BPI is based on average beef cattle prices received for 11 Western States and uses the same data as the ANCA proposal. The BPI has a base equal to 100 as the simple average price for the 5 years 1964 through 1968. The current BPI value is computed as the simple average of the preceding 3 years of the index.

The PPI has a 1964 through 1968 (5-year simple average) base and it also uses the same data as the ANCA proposal. It is based on index of prices paid by farmers for commodities and services, interest, taxes, and farm wages. The current PPI value is computed as the simple average of the preceding 3 years of the index. The formula is designed to minimize the amount of change in the fee in any one year through the 3-year moving average procedure. This fee procedure would apply to lands administered by BLM and FS in 11 Western States; table 7 illustrates the annual calculations.

TABLE 7

The House Interior Committee Proposal Included in HR 13777  
used to Compute Implied Fair Market Value Fee<sup>a</sup>

Data Year	Fee Year	Moving Average of Beef Cattle Prices Index <sup>b</sup>	Moving Average of Prices Paid Index <sup>c</sup>	Combined Index <sup>d</sup>	Implied Fee for		Average of Class I & II Landse
					Class I Land	Class II Land	
					dol/AUM	dol/AUM	
1964	1964	94	93	101	1.55	1.27	1.37
1965	1966	92	94	98	1.50	1.23	1.33
1966	1967	95	97	98	1.50	1.23	1.33
1967	1968	101	100	101	1.55	1.27	1.37
1968	1969	106	103	103	1.58	1.30	1.40
1969	1970	112	106	106	1.62	1.34	1.44
1970	1971	119	111	108	1.65	1.36	1.47
1971	1972	128	116	112	1.71	1.41	1.52
1972	1973	138	122	116	1.77	1.46	1.58
1973	1974	163	133	130	1.99	1.64	1.77
1974	1975	174	149	125	1.91	1.58	1.70
1975	1976	178	167	111	1.70	1.40	1.51
1976	1977	165	184	81	1.24	1.02	1.10
1964-68 average		100	100		1.53	1.26	1.45

<sup>a</sup>House Committee on Interior and Insular Affairs, 94 Cong. 2 Sess.; Report No. 94-1163; to accompany HR 13777; converted to S. 507 on floor; page 12, states 1976 fee of \$1.70 for Class I Lands, \$1.40 for Class II Lands, and page 227 gives base period and 3-year moving average requirements.

<sup>b</sup>Beef cattle price index, 1964-68 = 100, 11 Western States, calendar year, 3-year moving average.

<sup>c</sup>Prices paid index, US, 1964-68 = 100, 3-year moving average.

<sup>d</sup>(BPI-PPI + 100).

<sup>e</sup>Average computed on assumption lands are 40% in Class I, 60% in Class II.

Technical Committee Proposal (Technical Committee Report is  
Reproduced as Appendix A)

Printed in the Federal Register, Volume 42, Number 24, February 4, 1977, was a "Review of Public Land Grazing Fees." This report included a grazing fee proposal. The objective of the Technical Committee was to develop a fee formula that would reflect the value of the resource and still take into account institutional restrictions and goals. The Technical Committee proposed the following formula as a proxy for the competitive market price for grazing on an AUM basis:

$$FMV = \$1.23 \times ((L + P) \div 100)$$

In this formula, FMV for public grazing equals the \$1.23 base established from the 1966 Survey, multiplied by the Index of Private Grazing Land Lease Rates (L) plus a combined index (P) divided by 100.

The combined index is the difference between the index of average annual beef cattle prices in the 11 Western States minus an index of prices paid for items used in production including motor supplies, motor vehicles, farm machinery, farm supplies, building and fencing materials, interest per acre, and wage rates. The prices paid index of selected items are weighted by a Cost of Production Survey of western livestock operations. The formula was intended to reflect long-term trends in grazing values and, at the same time, account for short-term instabilities in livestock prices and production costs. Construction of the data for the Technical Committee is more involved than formulas using data normally available or routinely published. A special selection of items and their appropriate rates are required. This special PPI has been structured however, it is preparation requires difficult judgments.

Modifications were proposed for the prices paid index to make it more accurately reflect western range livestock operations. The data for November-October Prices Paid in Cattle Production and for November-October Beef Cattle Prices for estimating the Technical Committee formula have been constructed (Appendix C Part 1(a)). The impact of changing the method of collecting data is not available because data have been collected for only 1 year.

The results of applying the formula show the average for the 1965 through 1977 period at \$1.52 per AUM, slightly higher than the 1969 fee system for the same period (table 8).

The Technical Committee further suggested an improvement in the data collection procedures use for private grazing land

TABLE 8

Technical Committee Formula and American Farm Bureau Adjustment Proposal  
used to Compute Implied Fair Market Value Fee

Data Year	Fee Year	Beef Cattle Price Index <sup>a</sup>	Prices Paid Index <sup>b</sup>	Private Grazing Lease Rate Index <sup>c</sup>	Technical		Farm Bureau Implied FMV \$/AUM
					Committee Implied FMV \$/AUM		
1964	1965	87	95	96	\$1.08		\$0.45
1965	1966	94	97	98	1.17		.48
1966	1967	104	99	102	1.32		.55
1967	1968	105	103	102	1.28		.53
1968	1969	109	107	102	1.28		.53
1969	1970	123	113	105	1.43		.59
1970	1971	134	118	111	1.56		.65
1971	1972	134	124	111	1.49		.61
1972	1973	167	130	114	1.86		.76
1973	1974	195	140	125	2.21		.91
1974	1975	178	168	159	2.08		.85
1975	1976	160	198	158	1.48		.61
1976	1977	164	215	175	1.53		.63
1964-68 average		100	100	100	\$1.23		\$0.51

<sup>a</sup>all Western States, 1964-8 = 100

<sup>b</sup>prices Paid Index, United States, 1964-8 = 100

<sup>c</sup>Charges per head per month, 1964-8 = \$3.65 = 100

lease rates. The committee also suggested the grazing fee increases or decreases be limited to 25 percent in any one year.

#### American Farm Bureau Federation Proposal

The American Farm Bureau Federation (AFBF) has proposed a procedure for determining grazing fees (Johnson, 1977). This AFBF proposal is a modification of the formula proposed by the Technical Committee in its November 1976 report. The AFBF proposed modification would reduce the 1966 base FMV estimate of \$1.23 by the capitalized amount of permit value (see discussion of permit value in Chapter 3). The formula is as follows:

$$\text{FMV} = A - \text{PV} \times ((L + P) \div 100)$$

Where FMV = the fee per AUM for public land grazing  
A = the base FMV of \$1.23 established by 1966 survey  
PV = the permit value at 4 percent or \$0.72  
L = private land lease rate  
P = combined index of beef cattle prices minus prices paid for selected items used in production

The AFBF used the 1966 value of FS and BLM permits as a basis for this modification. The permit values used are those reported by FS and BLM permittees to the interviewers conducting the 1966 Western Livestock Grazing Survey. The average permit value reported for FS was about \$25.00 per AUM and for BLM about \$14.00 per AUM. The permit values are weighted by the number of AUMs reported by BLM and FS in 1966 in order to establish an average permit value of \$18.00 per AUM.

BLM:	11,801,304 AUMs	x	\$14.00 per AUM	=	\$165,218,256
FS:	7,120,000 AUMs	x	\$25.00 per AUM	=	\$178,000,000
	18,921,304 AUMs				\$343,218,256

$$\text{Then } \$343,218,256 \div 18,921,304 = \$18.00 \text{ per AUM}$$
$$\text{Annual cost} = \$18.00 \times 0.04 = \$0.72 \text{ per AUM}$$

The \$18.00 permit value is capitalized at 4-percent interest to determine the annual cost per AUM of \$0.72 cents.

The base value of \$1.23 is reduced by \$0.72 to devise a new estimate of \$0.51. The \$0.51 per AUM would represent FMV in 1966 when permit value is assumed to be a component of allotment operating costs.

Use of capitalized permit value in the AFBF proposal is the only modification of the Technical Committee proposal. If

applied to the Technical Committee proposal, the effect would be to reduce the 1966 FMV estimate by 59 percent. This same effect, a 59-percent reduction, would exist in each subsequent year. The 59-percent reduction could be applied to any formula that uses the \$1.23 as a base value. If applied to the 1969 fee system, for example, the implied FMV in 1976 would have been \$0.61 instead of \$1.94. Actual fees charged in 1976 were \$1.60 by FS and \$1.51 by BLM. This implies that fees charged in 1976 were in excess of FMV by 148 percent for BLM and 162 percent for FS. The use of permit value at 4-percent interest would have a radical effect on the level of fees charged. See table 8 for illustration of this formula.

### Competitive Bidding

Competitive bidding is an alternative to using appraisals and formulas for determining grazing fees. Competitive bidding could be handled in a number of ways ranging from unrestricted to highly restricted, depending on the objectives of the landowner (lessor). Essentially, most private lease contracts and lease rates are established on an open competitive bid market in that the lessor can lease to whomever he wants and anyone interested can negotiate with him. The lessor may lease to the highest dollar bidder or make other arrangements and considerations of value to him. In any case, he normally leases to the person who will provide for him the greatest advantage in relation to his objectives.

Following are four examples of competitive bidding grazing leases that might be used or modified by FS and BLM. Examples include competitive bidding on Indian lands, Department of Defense lands administered by BLM, a procedure used by FS on a limited basis in Nebraska, and a general proposal developed as an example.

#### BIA, Indian Land Bidding

The basic administrative approaches used by the Bureau of Indian Affairs (BIA) on Indian lands for rental grazing land arrangements are leasing and permit. Leasing involves a specified use of land under specified conditions. The permit allows a specific level of grazing (number of AUMs) under specified conditions (BIA, 1977a). The permit closely resembles grazing programs and use restrictions of FS and BLM. Under the permit approach, there is a grazing permit (or contract) with the permittee. This permit specifies the type of livestock, carrying capacity, and seasons of use. It also spells out the requirements for the permittee including management of the livestock and responsibilities to maintain improvements including fences, water developments, etc. These responsibilities are specified in the contract

(BIA standard grazing permit and range control requirements), prior to bidding so the prospective permittee knows the grazing situation he is bidding on.

The following tables 9, 10 and 11 show the acres, AUMs, dollars paid (total), and dollars paid per AUM by non-Indian permittees by area for 1966, 1974 and 1976. Note that between 1966 and 1976, the average bids increased by 106 percent as compared to the 58 percent increase in the FS/BLM FMV in the same period.

#### Department of Defense/BLM

In 1965, the Commanding General, U.S. Army Defense Command and the New Mexico State Director, BLM, entered into a memorandum of understanding to provide for "co-use" of the McGregor Range. The memorandum specifies the conditions under which grazing use would be permitted on the missile range. The Army requires that any grazing entry onto McGregor Range be preceded by permission from the Commanding Officer at the Air Defense Center. Entrants are allowed to remain on the range only during those hours and/or days for which permission has been granted. These restrictions preclude use by sheep and accompanying herders. In addition, all grazing use is subject to a short-term cancellation in the event the area is required for military purposes (Appendix C Part 3(a)).

The lands involved in the memorandum of understanding, including both acquired and withdrawn public domain, are not subject to the provisions of Section 3 (licenses) or Section 15 (leases) of the Taylor Grazing Act. Forage on the McGregor Range is disposed of under the provisions of the Material Disposal Act of July 31, 1947, as amended, 30 USC 601 (1964). This act provides for sale of the forage at public auction without geographic limitations to bidders.

Terms of the contract specify that BLM will maintain the water pipelines; however, maintenance of all other improvements, including fences and wells, are the responsibility of the lessee. The lessee, with the approval of BLM, may leave authorized improvements on the land. These improvements become the property of the U.S. Government. The Government assumes no responsibility with respect to the security of the lessee's livestock or property from theft, fire, loss of damage of any kind. The Government assumes no liability for damages from loss of livestock or inconvenience to the lessee in the event water is not available through the pipeline systems, wells, or tanks.

All pastures were not open for grazing at the beginning of the program in 1967. In the fall of 1966 two pastures were

TABLE 9

1966 Grazing Fees on Indian Lands  
Paid Under Competitive Bidding by Non-Indians

Area	Acres	AUMs	Dollars Received	Average Dollars Per AUM
Arizona	32,927	5,818	\$ 8,100	\$1.39
California	35,514	9,834	15,655	1.59
Colorado	31,017	1,737	3,246	1.87
Idaho	211,091	38,444	59,500	1.55
Montana	888,514	214,608	443,243	2.06
Nevada	325,470	20,553	21,504	1.05
North Dakota	182,357	81,196	117,820	1.45
Oregon	41,490	5,886	10,159	1.72
South Dakota	1,484,962	605,867	1,064,310	1.76
Utah	93,848	5,933	10,451	1.76
Washington	606,351	51,433	67,311	1.31
Wyoming	<u>5,691</u>	<u>1,260</u>	<u>3,151</u>	<u>2.50</u>
Total	3,939,132	1,044,369	\$1,824,450	\$1.75

Source: BIA, unpublished data.

TABLE 10

1974 Grazing Fees on Indian Lands  
Paid Under Competitive Bidding by Non-Indians

Area	Acres	AUMs	Dollars Received	Average Dollars Per AUM
Arizona	231,012	13,518	\$ 18,247	\$1.35
California	13,196	4,667	8,037	1.72
Colorado	None	.....	.....	....
Idaho	211,166	37,350	60,842	1.63
Montana	497,657	135,192	485,045	3.59
Nevada	117,666	9,862	.....	....
New Mexico	None	.....	.....	....
North Dakota	163,457	77,253	157,838	2.04
Oregon	81,228	5,814	9,609	1.65
South Dakota	935,570	394,720	1,033,556	2.62
Utah	81,761	4,252	8,062	1.90
Washington	458,266	35,906	59,298	1.65
Wyoming	<u>10,985</u>	<u>1,044</u>	<u>2,714</u>	<u>2.60</u>
Total	2,801,964	719,582	\$1,843,248	\$2.56

Source: BIA, unpublished data.

TABLE 11

1976 Grazing Fees on Indian Lands  
Paid Under Competitive Bidding by Non-Indians

Area	Acres	AUMs	Dollars Received	Average Dollars Per AUM
Arizona	14,550	450	..... <sup>a</sup>	..... <sup>a</sup>
California	4,487	949	3,527	3.72
Colorado	None	.....	.....	.....
Idaho	188,695	29,965	116,300	3.88
Montana	359,366	92,127	385,878	4.19
Nevada	87,664	7,874	5,856	0.74
New Mexico	None	.....	.....	.....
North Dakota	124,470	55,447	160,567	2.90
Oregon	72,098	4,447	13,441	3.02
South Dakota	552,308	234,381	917,445	3.91
Utah	69,746	3,069	5,388	1.75
Washington	396,131	32,196	54,951	1.71
Wyoming	<u>5,268</u>	<u>256</u>	<u>350</u>	<u>2.50<sup>b</sup></u>
Total	1,874,783	461,161	1,663,703	3.61

Source: BIA, unpublished data

<sup>a</sup>Grazing fees are not presently being collected by the Havasupai Indians because of Public Law 93-620, Section 10(d), which permits any person presently exercising grazing privileges for a period not to be extended beyond the 10 years from the date of enactment of this Act.

<sup>b</sup>The rate is \$2.50 per AUM but the permittee pays a token amount because the land is isolated.

advertised and, in subsequent years, pastures were leased as livestock facilities were repaired and range condition recovered to a point that would sustain livestock grazing. Table 12 summarizes the past 11 years of competitive bidding for McGregor Range grazing. The successful bids for 1977 varied from a low of \$3.08 per AUM to a high of \$7.17 with an average of \$5.43 (Appendix C Part 3(a)).

An additional example of competitive bidding occurs at Ft. Meade, South Dakota, where 5,780 acres of restored military reservation are leased for 5-year periods through BLM. The terms of the lease are similar to those in effect on the McGregor Range except for the 5-year lease period compared to the annual basis (except for 2 pastures with 3-year terms) on the McGregor Range. In 1964, the average bid price on Ft. Meade was \$3.65 per AUM. These same lands leased by competitive bid for the 5-year period, 1973-77, at \$8.26 per AUM (Appendix C Part 3(b)).

#### FS, Soldier Creek Bidding

The FS has a small area in northwest Nebraska which was priced through the use of competitive bidding (Appendix C, Part 3(c)). The management specifications are very similar to the term permits in the 11 Western States. The primary exception is that the winning bidder receives use of the grazing for a single year and is not involved in the construction of permanent improvements. In 1977, the winning bidder paid \$14.25 per AUM for 1,000 AUMs in one pasture and \$13.50 per AUM for 1,000 AUMs in the other pasture (Appendix C, Part 3(c)).

#### A Bidding Proposal for FS and BLM

Major obstacles would have to be overcome by FS and BLM before grazing leases and permits in the 11 Western States could be made available for competitive bid. Current law provides for 10-year permits and that permittees or leasees shall be given first priority for receipt of the new permit or lease that is to be issued at the expiration of the previous 10-year permit. Both FS and BLM have regulations which give preference for a "new" permit to the application of a qualified purchaser of base property and/or permitted livestock from the existing permit holder. Forest Service and BLM also have regulations requiring ownership or control of base property and livestock as a qualification for eligibility to be a permit holder. These laws and regulations are designed to fulfill the objective of providing forage stability to the permitted users' dependent ranches and, in turn, to the stability of associated rural communities.

These procedures must be modified, before competitive bidding could be a feasible alternative procedure for use by FS

TABLE 12

## McGregor Range Livestock Forage

Year	Units	Acres	AUMs	Dollars/AUM
1967	2	35,000	3,281	\$1.42
1967-68	4	67,000	7,068	2.05
1968-69	8	180,000	27,000	1.99
1969-70	10	246,000	43,350	1.83
1970-71	10	246,000	39,600	2.05
1971-72	10	246,000	44,400	2.07
1972-73	10	233,480	40,500	2.51
1973-74	10	226,000	42,600	3.41
1974-75	11	233,000	36,700	4.39
1975-76	11	214,000	44,850	5.31
1976-77	12	241,000	37,017	5.43

Source: Las Cruces District Office, Bureau of Land Management.

and BLM. Such a competitive bidding procedure would reflect FMV and account for the variations (variable fees) in the conditions and values related to livestock grazing.

A bidding procedure might include provisions such as minimum qualifying bids. To reduce disruption of existing related rural communities, a criteria for eligibility of bidders might be established. These might include specification of area of residence, ownership of livestock, land or both. A permit time period could be established to assure both the integrity of the FMV bid and sufficient period of tenure for adequate assurance of forage stability for the permittee.

The permittees might be required to perform necessary fence and development maintenance on the allotment. Because the bidders would consider all variables, the quantity of maintenance on the various allotments would be reflected under the bidding process. During the tenure of the permit acquired through the bidding process, permittees would be allowed to add only those improvements installed at their own expense that they would be willing to release to the Government at the end of the bid permit period, or at such times as they choose to waive back their permit and release themselves from the contract.

Restrictions on livestock numbers, season of use, and maintenance of the land resources associated with the grazing permit would continue as under the current permit and management system. Permittees who violated the terms of the bid permit, particularly if they caused basic resource damage to occur, would be in default of their contract and subject to penalties or cancellation of the contract.

### Comparison of Alternatives

The data and procedures used in estimating a value proposed as a public land grazing fee has been explained for each alternative in the preceding section. The alternatives vary in their capacity to fulfill the objectives of the grazing fee system. This section includes a discussion of the quality of the alternatives relative to the objectives. The following discussion indicates effectiveness of the alternatives.

The initial objective is for each alternative to estimate fair market value. As discussed in Chapter 3, the dollar value per AUM which represents FMV is in dispute. The disagreement is in terms of the process used to determine FMV. As indicated in the discussions and in table 13, Value Comparisons, the values vary significantly depending on the procedures used.

The charges for grazing cattle in 1977 reported by the SRS surveys averaged: \$7.20 per head per month for nine Western States in March; \$7.29 per head per month for 11 Western States in June; \$7.40 per head per month for 11 Western States in June; \$7.61 per head per month for six Western States in July.

During 1977, competitive bidding averaged \$5.43 per AUM on the McGregor Range (DOD) and \$13.75 per AUM on the Soldier Creek (FS) lands. Competitive bidding by non-Indians for Indian owned lands in 1976 averaged \$3.61 per AUM. A University of Nebraska formula which uses cattle weight, hay prices and pasture quality results in a rate of \$4.80 per AUM when hay at \$40.00 per ton and the poor, weedy pasture index of 0.12 is used.

These values are illustrated in figure 4-4 and table 13 showing the 1977 grazing values for private rental rates, State rates, comparable private land lease rates, and the public land fair market value as defined in the 1969 fee system. The actual fees charged by FS and BLM in 1977 are also shown. One comparison illustrated on the chart is that the actual fees charged in 1977 are the lowest of the several values. State government rates for grazing are only slightly higher, but their range from State to State is significant (Appendix C, part 4). For example, the lowest fee for which data were obtained was from Arizona at \$0.82 per AUM. The highest rate was from California for a limited number of AUMs at \$7.30 per AUM. Significant amounts of grazing are available at \$2.32 in New Mexico and \$2.50 in Colorado. The difference between the SRS survey data at \$7.00 to \$8.00 and the \$5.43 McGregor bid may be explained in part by the higher cost of responsibilities and limitations assigned to the bidder on the McGregor range. Similarly, the \$3.61 average bid on Indian lands is lower because of the higher responsibilities, higher risk and poor accessibility of these lands relative to private lands at \$7.00 or more. These Indian lands approach direct comparability with the land characteristics and circumstances of BLM and FS grazing lands.

The investment of the permittees in the BLM/FS lands explains at least in part, why FMV fee is below the Indian land bid price. The Indian land bid of \$3.61 per AUM can be considered generally equivalent in circumstances to the \$3.12 comparable private lease rate developed in the 1966 Western Livestock Grazing Survey and updated by use of PGLLR to 1977 values. Then by deducting the value of the BLM/FS imposed requirements (\$0.97 per AUM in 1977) the result is the FMV fee for FS/BLM public lands.

Although verification is not available for the above analysis the deductions from quoted private market rates of \$7.00 to \$8.00 appears reasonable. The FMV estimate of \$2.15 for

# 1977 Grazing Values

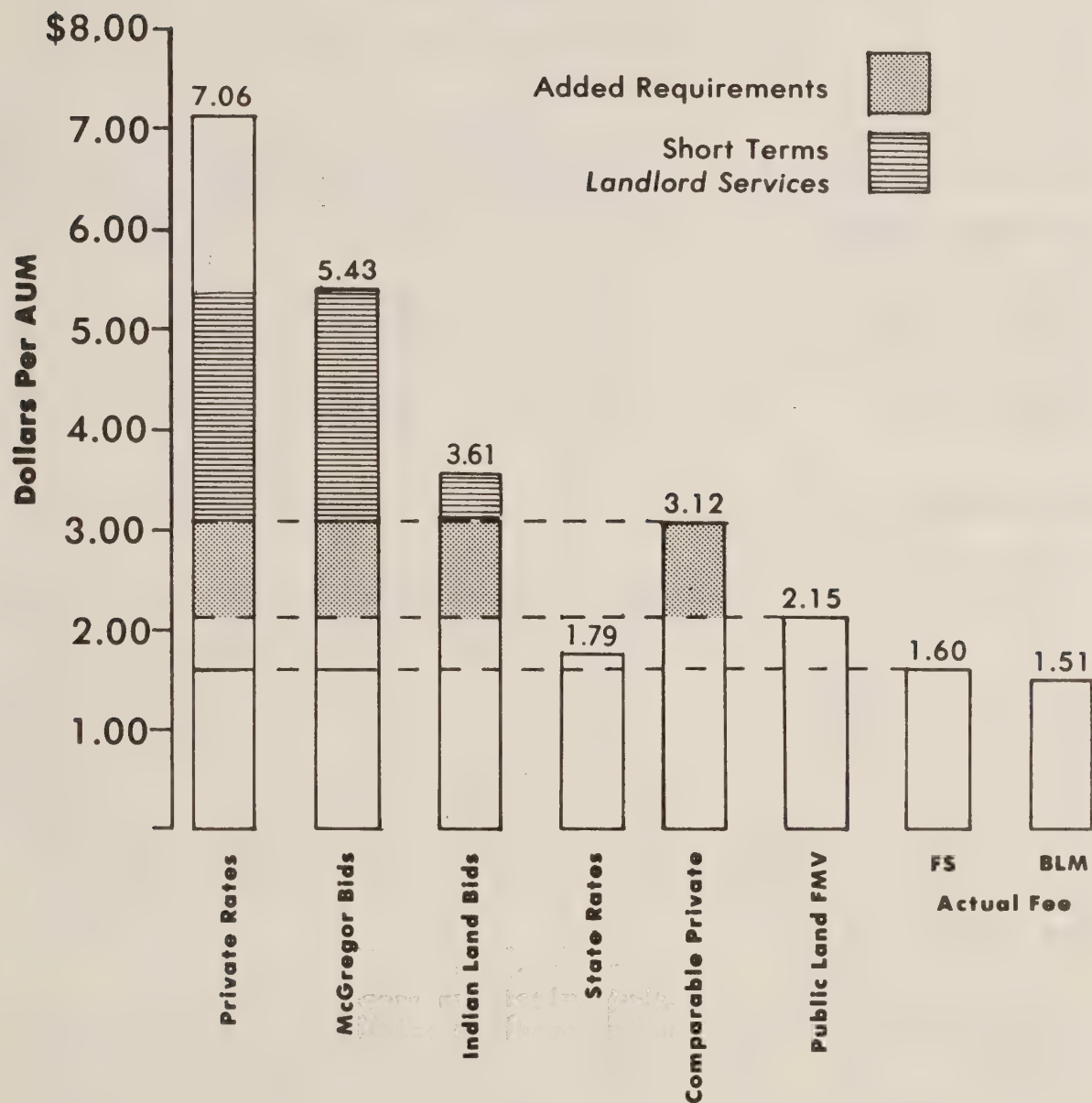


FIGURE 4 - 4

TABLE 13

Value Comparisons

## Various Sources and Procedures

	Year				Percent Change
	1966	1974	1976	1977	1966 to 1977
	Dollars per AUM or per head per month				
<u>Alternative Systems</u>					
1969 System	1.23 <sup>a</sup>	1.54	1.94	2.15	+75
Modified 1969	1.23 <sup>a</sup>	1.54	1.94	2.15	+75
Technical Committee	1.23 <sup>a</sup>	2.21	1.48	1.53	+24
Farm Bureau	0.51	.91	.61	.63	+24
House Interior	1.36	1.77	1.51	1.10	-19
ANCA	1.23 <sup>a</sup>	1.84	1.00	0.77	-37
<u>Other Measures</u>					
Competitive Bids					
Indian Lands (BIA)	1.75	2.56	3.61	....	+106 <sup>b</sup>
McGregor	1.53	4.39	5.31	5.43	+255
FS	....	10.50	7.50	13.50	....
Beef Prices, only	1.23 <sup>a</sup>	2.44	2.02	1.97	+60
Grazing Land Values	1.23 <sup>a</sup>	2.16	2.67	2.85	+132
Hay Prices, only	1.23 <sup>a</sup>	2.00	2.63	2.96	141
Nebraska formula	3.48	5.87	7.71	8.70	+150
FS 1931	0.51	1.07	0.89	0.86	+69
PGLLR 11 Western States	3.65	4.57	6.37	7.06	+93
SRS, 11 Western States				7.29	....
<u>State Government Rates</u>					
California (highest)	....	....	....	7.30	....
Arizona (lowest)	0.39	0.74	0.82	0.78	+102
Montana	0.68	....	....	1.45	+113
Wyoming	0.67	....	....	1.25	+87
13-State weighted average				1.79	....
<u>Actual Charges</u>					
BLM	0.33	1.00	1.51	1.51	+358
FS	0.51	1.11	1.60	1.60	+214

<sup>a</sup>The \$1.23 established by the 1966 Western Livestock Grazing Survey.

<sup>b</sup>From 1966 to 1976, 1977 data not available.

1977 may be at the low end of the probable range of values. That is, given the procedures used, the "true" public land FMV for 1977 probability is within a range of \$2.00 to \$3.00 per AUM after deducting from the \$7.00 the value of landlord services supplied, the higher bid price for emergency and short-term needs, and the higher level of inputs supplied by permittees.

The private rates (PGLLR) range from a low of \$2.83 in Nevada to a high of \$8.88 in California for the 11 Western States in the June survey and from a low of \$5.67 for New Mexico to a high of \$8.61 in California in the six State July survey (Nevada was not included in this survey). The variability among States probably results from regional differences in landlord-tenant division of responsibilities, regional weather conditions (drought) and regional markets. Finally, the low rates in some States may be explained by the dominance of the Federal grazing lands with their low fees setting the market price.

Competitive bidding is the most effective system for measuring FMV. However, if competitive bidding is for a long period, for example 10 years at a constant rate, it represents FMV in the initial year and the bidder's perception of FMV in future years. Only through frequent bidding can this process continue to assure FMV in each year or in future years. The AFBF proposal does not measure FMV since the base is reduced by the amount of FMV that is assumed to have been paid through purchase of the permit. The ANCA, House Committee, and Technical Committee alternatives use indexes more appropriate to measure general trend in farm income rather than FMV of grazing. In addition, the House Interior Committee proposal selects a base of \$1.51 per AUM in 1976 which is clearly below FMV as measured by the competitive bids or private market rates for that period. The 1969 Fee System and its modification are reasonably effective as measures of FMV.

Equity is a more subjective judgment. When equity is defined as the distribution of resources and capital resulting in a competitive economic system, the alternative which provides FMV is clearly the equitable solution (Ferrell, 1977). Therefore, competitive bidding, and to a lesser extent the 1969 System, and 1969 System modified are the alternatives which provide equity. The amount the permittees pay and the public receives is equivalent to what each would be expected to pay or receive if they were private individuals involved in private transactions. Other judgments on equity are possible and involve such concerns as equal returns on investment and equality of income among industry groups. However, application of an equity of income criterion to the pricing of one of many cost factors in an enterprise is an inappropriate extension of the equity argument. Generally, such

concerns are the responsibility of programs, other than public land range management, with more effective means for assisting with economic welfare problems.

Future accuracy refers to the potential for the procedure to have a FMV outcome at a future time such as 1982 or 1983. Competitive bidding will again be the most effective means to achieve FMV in future years since the bid is the fair market value at the time of bidding but frequent bidding is necessary. The fee proposals including beef cattle prices paid indexes are marginal at determining FMV and can be expected to be less effective in following the changes in FMV into the future. In particular, the future relationship between the beef cattle prices and the prices paid indexes is unknown. These indexes are more appropriate as measures of trends in income rather than of grazing value. The evidence of competitive bids, state government grazing fees and prices of substitute feeds all indicate that the value of grazing historically has not followed these indexes. In addition, these indexes do not measure the significant factor of improved production efficiency.

The basic expectation is for increasing FMV since 1966. This is reflected in the increases in FMV of the 1969 fee system which reflects the changes in private grazing land rental rates (figure 4-5 and table 13). This expectation is substantiated by the increase in grazing values if it is adjusted by changes in the price of grazing land sold in the 11 Western States or by the increase in the price of hay (U.S. average) during the 1966 to 1977 period. The price of grazing land as a source of grazing and the price of hay as an alternative fee source can be expected to have similar rates of change as grazing value. The grazing value would have increased by 132 percent and 141 percent if indexed by prices of grazing land and hay respectively. Similarly, the areas with competitive bidding show increases in grazing value of 106, 255, and 97 percent for the 1966 to 1977 period for Indian lands, McGregor, and Ft. Meade, respectively. Each of these measures has rates of increase which exceed the 93-percent increase of PGLLR. Those alternatives with small increases or with decreases in implied grazing values are inconsistent with the directly related measures of grazing value changes. Therefore, the ANCA, Technical Committee, House Committee, and AFBF proposals are not providing appropriate or reasonable estimates of grazing value for 1977.

All of the alternatives are equally usable by both FS and BLM and are administratively feasible with two major exceptions. Competitive bidding would require major policy changes before either agency could shift to this process. The House Interior Committee formula uses a variable fee by "Class of Land" which is infeasible as a part of a formula for setting fees.

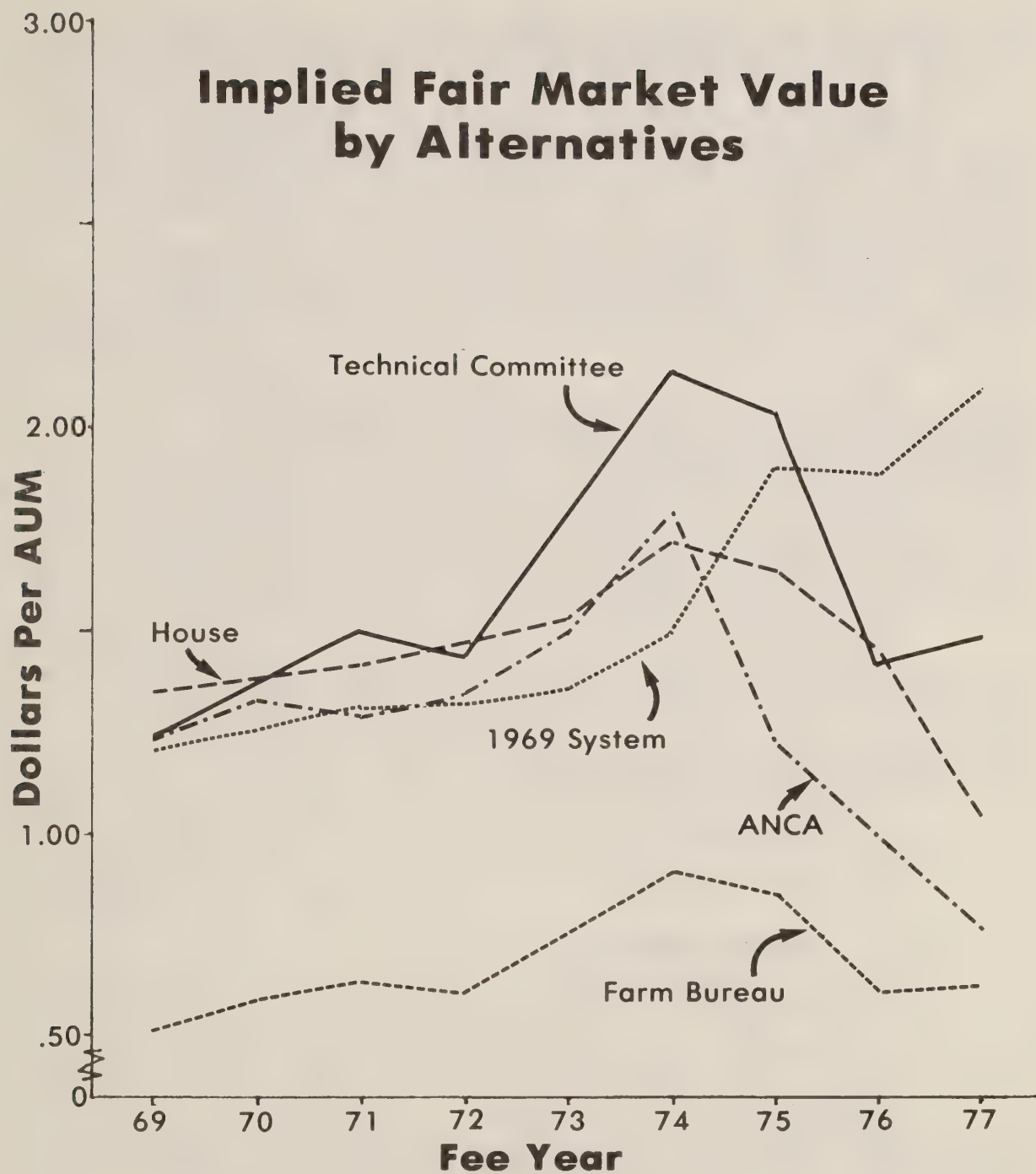


FIGURE 4 - 5

(The classes of land concept are better left as a variable fee option and is discussed in that section of this report.)

Common, direct data are available for the 1969 fee system and the modified version. The ANCA and House proposals require use of data which are less direct in application and relevance to grazing fees, but the data are normally available. The Technical Committee and AFBF proposals require special tabulations of data with increasing uncertainty of the appropriate use. The AFBF proposal would require additional research and data collection to ensure that permit value is properly measured.

Only annual competitive bidding would have extreme negative effects on the stability of current permittees and their livestock enterprises. The other alternatives provide for general expectations of stability. Those alternatives with the lowest fee level determinations may provide the greatest stability, certainly to the extent fees are below fair market value and a limited economic advantage is available to the permittees. The fee level, however, cannot be low enough to guarantee profitability and, therefore, economic stability for the permittees.

The alternatives are "graded" on the basis of their effectiveness relative to the objectives. In final selection of an alternative, the summation of effectiveness is subjective. The implied overall ranking of the alternatives from most effective to least effective is as follows:

1. 1969 Modified
2. 1969 Fee System
3. Technical Committee
4. Competitive bidding
5. The ANCA, House Committee, and AFBF proposals

Finally, there is the comparison of the impact of the several alternatives on the permittees. The exact number of permittees who hold both FS and BLM permits is unknown but of over 32,000 permits an estimated 25,000 different livestock producing units graze livestock on either or both BLM or FS-administered lands. Only a limited amount of information is available to describe the livestock enterprises involved, as the available data are limited to that necessary to establish qualifications for the permit and data directly related to the use of the permits.

The impact of any fee system on the permittees obviously is the amount of fee they are required to pay, and the means of

its determination are significant only in that context. Ideally, the discussion of impact would be made on the basis of changes in that portion of an operating livestock enterprise directly involved in the use of the public lands. Unfortunately, the only estimates of impact are average estimates based on the amount of grazing permitted and case studies based on sample, typical, or composite range units.

Impacts on permittees and their operating units as a result of any increases in fees are always negative. Any fee increase results in an increase in expenses and a decrease in operating profits, regardless of the previous fee level, or the amount it was below FMV.

Permittees pay an average fee of \$1.54 per AUM (average of FS and BLM fees in 1977). If the permittee uses public grazing for 12 months, then the fee cost per cow-calf unit per year is \$18.48 and except for salt and supplements, is the permittee's total feed cost per cow-calf unit. If the permittee uses the public grazing for 5 months, then the total fee cost per cow-calf unit is \$7.70. Compared to the 1975 total production costs (including land costs) which indicate the per cow-calf unit costs of \$286 in the Northern Plains and \$225 in the Intermountain area, then the fees represent from 3 to 8 percent of total costs (ERS, 1976).

Of the more than 32,000 permittees on FS and BLM about 72 percent have small permits with an average grazing use of 159 AUMs, or the equivalent of 32 cows with calves for 5 months of grazing (figure 4-6). At the 1977 fee level the average cost per permittee is \$245 and would increase to \$342 if fees were increased to \$2.15, the 1977 FMV.

On the other hand, the group with the largest permits represents about 1.5 percent of the permittees and they control 26 percent of the grazing. This group has an average fee bill of nearly \$17,000 per year and with an increase to FMV of \$2.15, would pay over \$23,000. Those permittees whose only feed source is the public lands would, of course, have larger total bills. However, in each case the total fee cost of feed would still be \$1.54 (average of FS and BLM fees) per cow-calf unit per month or \$7.70 fees for 5 months of grazing per cow-calf.

If the nonfee costs of \$0.97 per AUM are added to the fee then the total feed costs for a cow-calf unit in 1977 are \$2.51 and would be \$3.12 if fees were at FMV. Then the total fee costs per cow-calf unit for 5 months in 1977 would be \$12.55 and \$15.60 at actual fee level and at FMV respectively. Translated into annual costs, the equivalent total feed cost for 12 months of grazing on public lands for a cow and calf is \$30.00 at 1977 fee rates and \$37.00 at FMV.

# Distribution & Average Bill

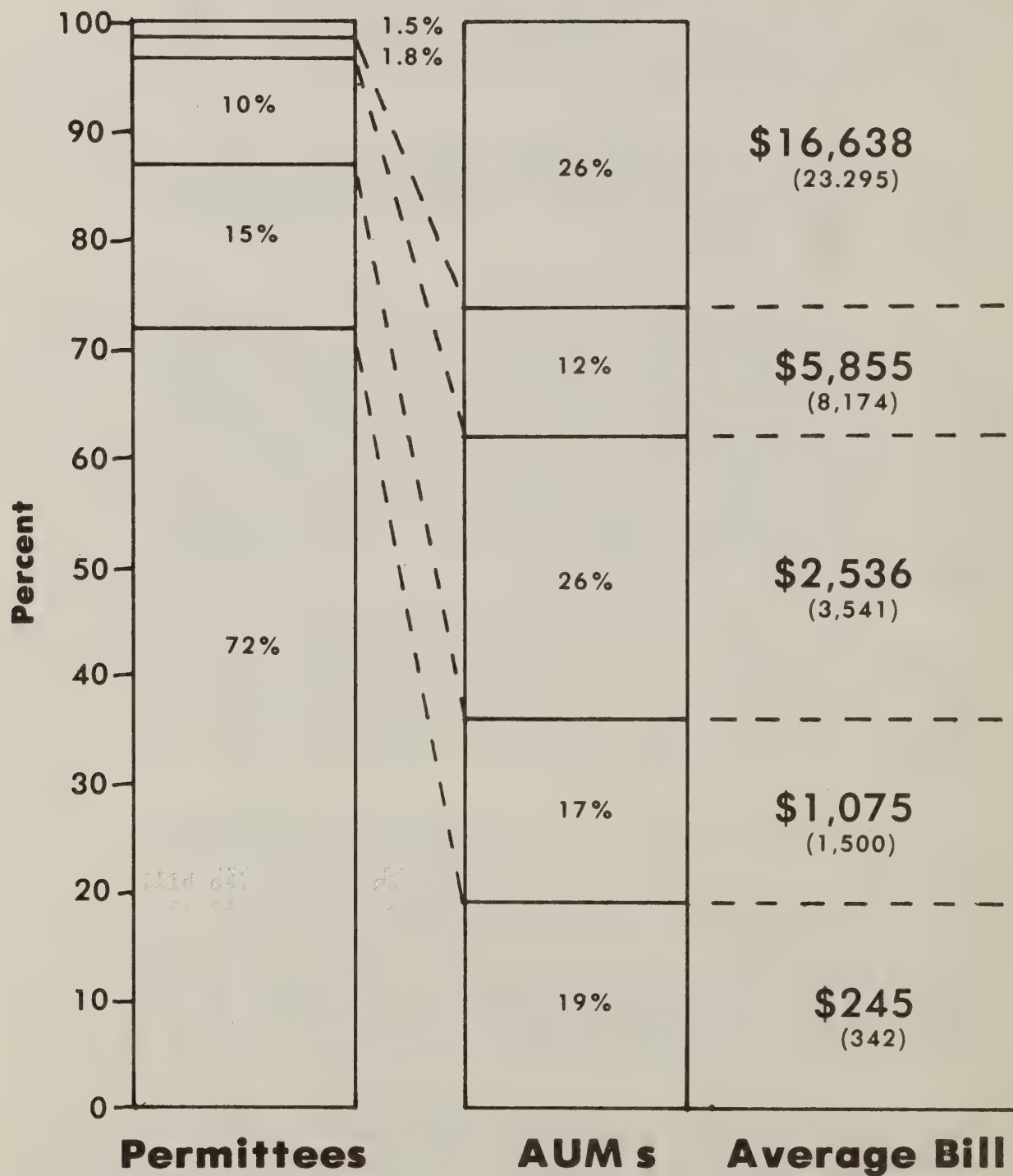


FIGURE 4 - 6

The incidence of impact varies as the distribution of the grazing on Federal lands varies (figure 4-7). The States with the larger shares of such grazing are Nevada with 16 percent, New Mexico with 14.5 percent, Wyoming with 13.3 percent, and Arizona and Utah with about 10 percent each. Impacts from changes in fees are most significant in Nevada, Arizona and Utah because the portion of grazing provided by FS and BLM-administered lands is largest in these States relative to the total grazing available.

In summary, the impacts of charging FMV fees are significant to the permittees, however, FMV fees give permittees neither economic advantage nor economic disadvantage relative to live-stock producers using private lands.

#### VARIABLE FEE OPTIONS

The public rangelands administered by FS and BLM are a highly complex resource ranging in elevation from sea level to over 14,000 feet (PLLRC, 1970a). It embraces an almost infinite variety of vegetation, topography, soils, climate, and social situations. No universal yardstick or scale exists to measure for grazing fee purposes the different characteristics of this extremely heterogeneous environment.

The variable fee proposition would attempt to measure differences in specific factors and to make a corresponding allowance in a grazing fee system for these differences. Suggested factors include: forage quality, forage production, seasons of use, steepness of land, weight of livestock, water supply, cash rent, and project maintenance costs (Appendix B, Public Comments). One or more of these factors and others that distinguish one portion of the range environment from another could be applied to the current single fee system, the ANCA proposal, the Technical Committee formula or to any modifications of these basic fee procedures. The question is what specific factor(s) and units of measurement could be used to establish a variable fee, how large or small an area, and what categories should be included within each separate fee. Still another question would concern how frequently variable fees should be adjusted and by what process (Rachford, 1924).

The rationale for a variable fee suggests that inequities exist in a uniform grazing fee system because of differences in character of rangelands, the livestock using these lands, and market conditions (Nielsen and Williams, 1970).

This section will provide, in a skeleton form, examples of how some of the different characteristics might be used to formulate a variable fee(s). Many specific details for implementing such procedures have not been dealt with. Other alternative

# DISTRIBUTION OF AUMs

18.9 MILLION - TOTAL

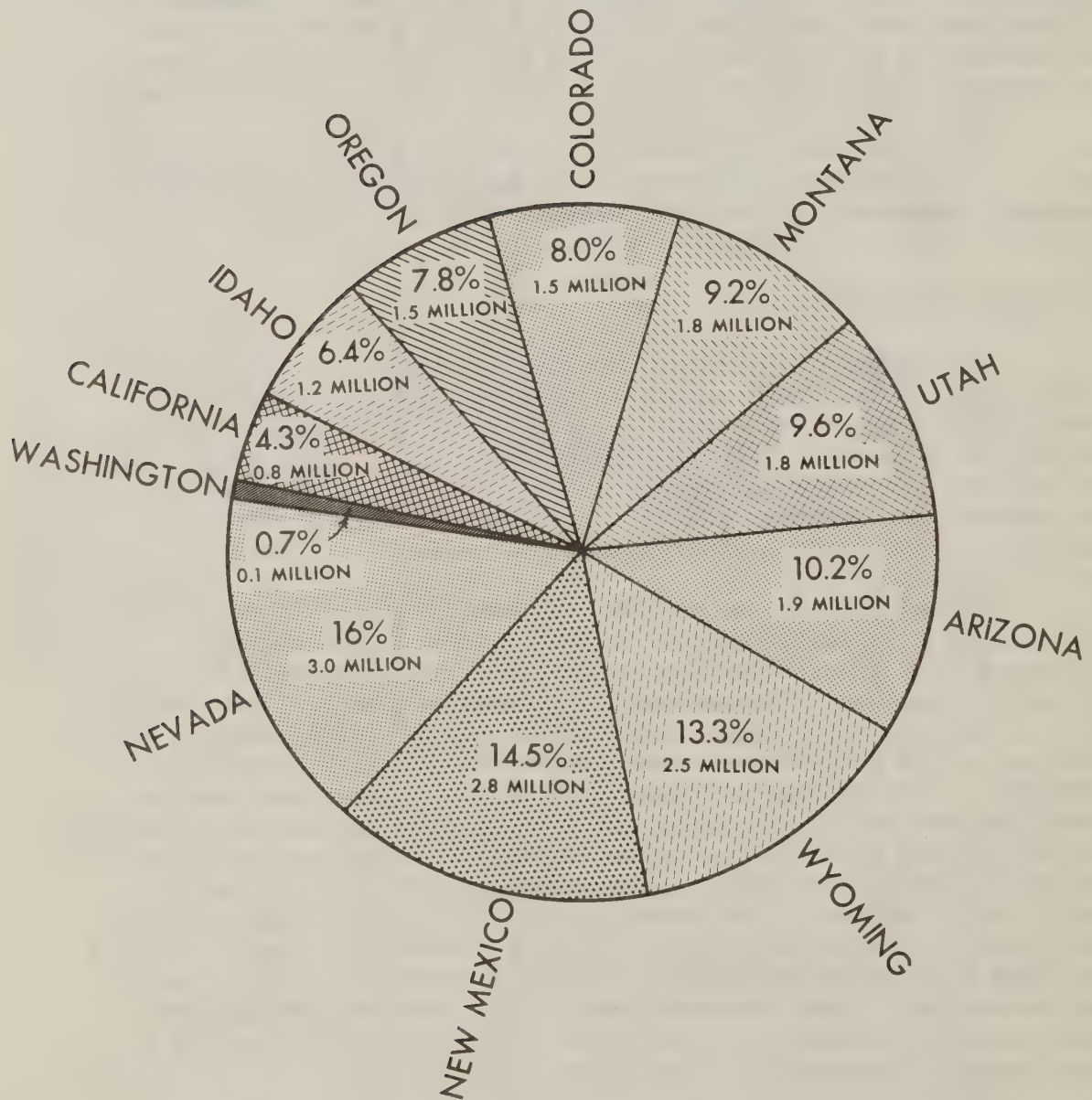


FIGURE 4 - 7

schemes or solutions to the variable fee(s) issue have been suggested and the possibilities or combinations are almost without end (Rachford, 1924). Most of the measurements or units used in the examples rely on some form of subjective judgment and have obvious imperfections or exceptions when applied to all Federal grazing lands during all seasons of use. The factors used in the variable fee examples include:

1. Three categories of forage quality
2. Five categories of forage quantity
3. Five categories of season of use
4. Six categories of animal weight
5. Three categories of animal age
6. One rate per pound of gain
7. Five categories of topography
8. Three categories of management consideration
9. Seven categories of dependency
10. Eleven categories of cash rent
11. One allowance for improvement cost

#### Characteristics of Vegetation

Several proposals have been advanced to use forage quality, forage quantity, stocking rates, or season of use as criteria for establishing different fees between geographic areas. (Kearl, 1970, PLLRC, 1970).

Forage quality pertains to the ability or value of the forage to meet the grazing animal's nutritional needs. Existing research would support the general belief that nutritional value of forage is considerably higher on spring and summer ranges than on fall and winter ranges (Cook and Harris, 1968, Springer, 1953). Data are not presently available to provide a specific nutritional value rating system for all public rangelands. However, a procedure could consider three classes of rangelands rated on the general ability to furnish an adequate animal ration, adjusted annually using the existing FMV data. Class 1 lands would be rated more than adequate in nutritional value, Class 2 lands would be adequate, and Class 3 lands would be less than adequate.

Class 2 lands (adequate) would be assessed the FMV rate, Class 1 would be 110 percent and Class 3 lands grazing fees would be derived using an index of 90. The example procedure is shown below:

<u>Class</u>		<u>Quality Rating</u>	<u>Index</u>	<u>Base AUM Fee</u>	<u>1976 Fee/AUM</u>
1	+	Adequate	110	\$1.94	\$2.13
2		Adequate	100	1.94	1.94
3	-	Adequate	90	1.94	1.75

Forage quantity or carrying capacity relates to the volume of forage produced per acre and is frequently measured by the average number of acres required per AUM. Using existing carrying capacity information, the public rangelands could be separated into five groups based on their rated carrying capacity for suitable acres. The highest rated group (number 1) would average less than 7 acres per AUM and the lowest group (number 5) would require more than 18 acres per AUM. It is assumed that in the lowest group (number 5) there would only be about two-thirds of the value for livestock grazing as the average middle group (number 3) since it takes about one-third more acres to provide equivalent forage. The \$1.23 FMV fee, adjusted annually to maintain comparability with current market value, would be assigned to the average middle group (number 3) and adjusted proportional to the other four groups. The number of groups were arbitrarily limited to five to maintain simplicity in administration.

The computations for 1976 are shown below:

<u>Rating Group</u>	<u>Acres per AUM</u>	<u>Index Rating</u>	<u>1976 Fee/AUM</u>
1	Less than 7	133	\$2.58
2	710	116	2.25
3	1114	100	1.94
4	1518	84	1.63
5	over 18	67	1.30

The classification of rangelands into livestock-use-seasons is usually controlled by natural conditions of climate, vegetation, elevation and/or water supply (Calef, 1960). These seasons of use tend to become fixed and summer range does not easily enter the winter range market. A variable fee index could be established by employing the four general seasons of spring, summer, fall, and winter and yearlong grazing. The seasonal index would correlate with the general carrying capacity and forage value for each grazing season. Fall and winter ranges would have lower fees than spring and summer ranges due to lower nutritional value (Cook and Harris, 1968), and all seasons would

be adjusted annually using the existing FMV system. An arbitrary example is shown below:

Use		Base	
<u>Season</u>	<u>Index</u>	AUM	1976
Summer	110	Fee	<u>Fee/AUM</u>
		\$1.94	\$2.13
Spring	105	1.94	2.04
Yearlong	100	1.94	1.94
Fall	95	1.94	1.84
Winter	90	1.94	1.75

Carrying capacity by season of use is highly variable in terms of both quality and quantity. Winter grazing in one area is much different than winter grazing in another area. Similarly, summer season grazing is not identical from area to area. It is difficult to measure the nutrient value of grazing by season of use without measurement of many of the other variables.

#### Characteristics of Livestock

The constant changing pattern of modern agriculture also affects the rancher who relies on public rangelands as one of the major sources of feed for his livestock. The animal product sold from each ranching enterprise is usually a factor of personal preference, competitive markets, debt pressures, limitation of land, and suitable alternatives.

#### Weight and Age of Livestock

The existing single uniform fee makes no allowance for difference in the size or age of livestock permitted. A cow with calf, under 6 months of age, is charged the same rate per head per month as a yearling steer or heifer. This practice does not recognize the established fact that forage consumption normally parallels the weight and size of the animal (Crampton and Harris, 1969). The logic of larger and older livestock consuming more range forage than younger animals would support a fee adjustment factor based on weight of livestock (Kearl, 1970). Using animal weights, the following table could be used to more clearly reflect a grazing fee based on forage consumption (Kearl, 1974, Leistritz, 1973).

<u>Class of Livestock</u>	<u>Average Weight</u>	<u>AUM Coeff.</u>	<u>Base AUM Fee</u>	<u>1976 Fee Head/Month</u>
Bull/horses	1,300	1.25	\$1.94	2.42
Cows	1,000	1.00	1.94	1.94
Yearlings	700	0.70	1.94	1.36
Calves	300	0.30	1.94	0.58
Ewes	115	0.20	1.94	0.39
Lambs	50	0.08	1.94	0.16

Accepting the general assumption of a direct relationship between weight of livestock with age of animals simplifies the criteria for the establishment of AUM coefficients based on forage consumption. The difference between sheep and cattle is presently factored into the AUM equivalent measurement. Using the three age groups of mature, yearlings, and unweaned young, it is reasonable to structure the AUM coefficients by rating the dry cow at 1.0, a yearling steer or heifer at 0.7 and the unweaned calf at 0.3. Because the weights of mature bulls and horses are usually greater than 1,000 pounds, a bull or horse would have a coefficient of 1.3. Annual adjustments would be made to maintain comparability with current market condition of private land lease rates. Using these age/AUM coefficients, a variable fee system could be structured on common age groups as shown in the following table:

<u>Age Group</u>	<u>AUM Coeff.</u>	<u>Base AUM Fee</u>	<u>1976 Fee Head/Month</u>
Cow	1.0	\$1.94	\$1.94
Cow and Calf	1.3	1.94	2.52
Yearling	0.7	1.94	1.36
Bull/Horse	1.3	1.94	2.52
Ewe and Lamb	0.3	1.94	0.58
Ewe	0.2	1.94	0.39

#### Productivity of Livestock

The monetary value of rangelands may be measured in terms of converting forage into animal products such as calves, lambs, wool, and pounds of gain. Generally, these products are the result of the entire ranch operation and are not segregated by individual stages of the annual production cycle. Range animals may go through cycles of inadequate and adequate nutrition during each year which will directly influence animal weights (Cook and Harris, 1968). Inclement weather and nutritional deficiencies are common on winter ranges and are unfavorable to maintaining animal weights, while spring and summer range conditions of weather and forage are favorable for animal weight gains.

A fee system based on animal weight gains could be utilized provided facilities were available to weigh all livestock on and off the public rangelands. The exception would be winter ranges where weight gains are not usually expected. Winter range use would be assessed the base AUM rate in recognition of its relative important function in a year-round ranch operation. Annual adjustments would be made to the base fee to maintain comparability with private land lease rates.

Assuming that 30 pounds of gain is equivalent to an AUM then the present AUM fee rate could be converted into a cents per pound fee. Using the 1976 market value rate of \$1.94 per AUM, the equivalent rate per pound of gain would be \$0.0647. This direct conversion is made by dividing the \$1.94 by the 30-pound equivalent. Winter ranges could be charged at the \$1.94 rate per AUM.

The application of the charge per pound of gain procedure is shown in the following example. A cow-calf permittee turns on the public range in the spring with a total weight of 99,000 pounds. This represents 100 cows at 900 pounds each and 90 calves at 100 pounds each. In the fall, at the end of the grazing season, the herd weighs off at 136,000 pounds. Assuming no death losses, the 136,000 pounds represents 100 cows at 1,000 pounds each and 90 calves at 400 pounds each. The difference between weight on (99,000) and weight off (136,000) is 37,000 pounds. The 37,000 pounds of gain, when billed at the \$0.0647 fee per pound, would result in a total grazing charge of \$2,383.90.

#### Characteristics of Physical Features

The physical features of soil, topography and climate not only determine the kind of vegetation possible, but they also determine the manner and degree of livestock use possible of rangelands (Stoddart, et al., 1975). Steep rocky hillsides, long distances between water, hot summers and cold winters, and sparse vegetation are unfavorable conditions for livestock production. Rough topography is a distinct disadvantage and gentle terrain a valuable character in range livestock production (Clawson, 1950). However, some areas of rough terrain may be an asset on winter ranges for protection from winter storms.

Although range animals may adjust to water deficits, the lack of water or poor water distribution may prevent the use of some range areas. Seasonality of water and distance between live water are usually determining factors in the use of any range area (Clawson, 1950).

The physical factors of topography and sources of water place limits on the distribution of grazing animals. These two factors and others are all relative to the particular class, breed, and age of grazing animals. Some classes of animals are more tolerant to heat, require less free water and make greater utilization of rough terrain than others (Stoddart et al., 1975). Rangelands can be classified as to suitability for livestock based on the physical characteristics of accessibility, water supply, and soil stability. Forage productivity of ranges classified as unsuitable are not considered in the determination of carrying capacity for livestock and no grazing fee is charged for the forage on ranges classed as unsuitable.

On ranges suitable for livestock grazing, a physical character index based on a topography index rating could be used and the base fee adjusted annually to maintain comparability with current private lease rates. An arbitrary topography index example is shown in the following table for computing the fee for each allotment for 1976. The number of classifications were arbitrarily limited to five to maintain simplicity and Class III selected as the base.

Topography Classification		Class Index	Base AUM Fee	1976 Fee/AUM
I	Flat	110	\$1.94	\$2.13
II	Rolling	105	1.94	2.04
III	Medium Slope	100	1.94	1.94
IV	Steep Slope	95	1.94	1.84
V	Rough Slope	90	1.94	1.75

#### Characteristics of Management

The apparent differences between public and private land management and utilization policies have been cited as rational reasons for having a variable fee on public lands (Appendix B, Public Comments). Most of these factors relate in some way to multiple use management considerations and can be grouped under the general headings of:

1. Regulations of forage use
2. Construction and maintenance of range improvements
3. Unlimited public access and use
4. Degree of predator control
5. Wildlife habitat protection

Involving one or all of these allotment-by-allotment differences in a variable fee could be accommodated by establishing fee credits or allowances to be subtracted from the existing fee formula. One example would be to assign an arbitrary 0, 5, or 10-percent credit per AUM for the different degrees of negative impacts on livestock permittees associated with multiple use. Each allotment or range area would be inventoried and analyzed to arrive at an impact rating index.

A specific dollar credit per AUM could be figured each year for each permittee based on his actual financial contributions to new projects and maintenance of existing projects (Wyatt, 1964). This credit per AUM would be subtracted from the base fee per AUM to produce the variable fee for each permittee. Here the base fee per AUM for 1976 is at \$2.24 which is the update of \$1.23/AUM without the discount for the cost of maintenance done by permittees. This maintenance cost allowance must be added back into the average if the cost of maintenance is to be subtracted on an individual basis.

An arbitrary example is shown in the following formula to illustrate how the improvement credit and the multiple use rating index might be utilized in computing a variable fee. For this example, the impact rating factor is 5 percent per AUM and the improvement credit is \$0.25 per AUM.

$$\begin{aligned} 1976 \text{ fee} &= \text{base fee} - (\text{Impact rating} \times \text{base fee}) + \text{improvement credit} \\ 1976 \text{ fee} &= \$2.24 - (0.05 \times \$2.24) + (\$0.25) \\ 1976 \text{ fee} &= \$2.24 - (\$0.11 + \$0.25) \\ 1976 \text{ fee} &= \$1.88 \text{ per AUM for the specific allotment} \end{aligned}$$

A grazing fee surcharge or addition to the base fee could also be considered to recover the Government share in any range improvements that facilitate or improve livestock use of the the public lands.

### Characteristics of Markets

As a general rule, western ranchers support their year-round operation through some combination of deeded land (water), land purchase contracts, leasing of State, county, and privately owned lands, and public land grazing permits. Some ranchers may own all the lands necessary for their total forage needs while others may have a significant interdependency on leased private lands or Federal grazing permits. If there is a reasonable amount of competition and a relatively free market for grazing the resource will be priced at or near its relative value to the rancher in producing livestock products (Trierweiler et al., 1976).

Another factor of the forage supply and demand market is the interdependency of Federal and private lands in relationship to the yearlong forage needs for individual ranch units (Upchurch, 1961). Because some private land holdings cannot supply the necessary livestock forage for all seasons of the year, some ranchers must depend upon Federal rangelands to obtain a yearlong supply of feed (CAST, 1974). This dependency of the range livestock industry upon Federal grazing lands is substantial in most Western States (Leistritz and Dunn, 1971, Nielsen and Workman, 1971).

#### State Fees Based on Private Rental Market

Rental rates for privately owned grazing lands as reflected by the demand and supply situation are market indicator of the value of rangeland forage. These market rental rates are a primary measurement criteria for grazing value and can be stratified into rental market areas such as several States, individual States, and intrastate regions. (Jensen, 1967, Nielson and Bailey, 1970b) (Rachford, 1924).

A variable fee could be formulated on the interstate variations in the 11 Western States average cash rent for pasturing cattle on privately owned lands (ERS, 1977c). The base fee established using the existing fee procedures would be adjusted annually for each State by the direct percentage each individual States' cash rent varied from the 11 State average. For example, if the average cash rent for Oregon is 10 percent below the 11 State average, the base fee within Oregon is reduced by 10 percent. Using 1975 cash rent data, a variable fee by States could be computed for the 1976 fee year as shown in table 14.

#### Dependency by Use

The relative importance of Federal rangelands as a source of livestock feed varies considerably among ranching areas and among localities (Clawson, 1950). In general, the proportion of forage obtained from public grazing lands varies directly with the duration of the grazing season and the percent of private grazing lands within grazing areas. A permittee grazing his herd on public lands for 6 months during spring, summer, and fall would obtain 50 percent of his feed requirements from public lands. The proportion of the permittee's total herd using public ranges also would influence this percentage (Upchurch, 1961).

The actual dependency of a permittee on the public rangelands for livestock forage would vary with: (1) the length of time the livestock are on the Federal ranges; (2) the number of head grazed in relationship to total herd; (3) the amount of

TABLE 14  
Computation of Variable Fees by States

Range State	<sup>a</sup> Cash Rent	<sup>b</sup> Adjusted Factor	Base AUM Fee	1976 State Fee/AUM
<sup>c</sup> Weighted Avg.	\$5.75	1.00	\$1.94	\$1.94
Arizona	4.60	0.80	1.94	1.55
California	5.54	0.96	1.94	1.86
Colorado	5.71	0.99	1.94	1.92
Idaho	6.56	1.14	1.94	2.21
Montana	7.03	1.22	1.94	2.37
Nevada	5.62	0.98	1.94	1.90
New Mexico	4.94	0.86	1.94	1.67
Oregon	5.11	0.89	1.94	1.73
Utah	5.76	1.00	1.94	1.94
Washington	6.04	1.05	1.94	2.04
Wyoming	6.27	1.09	1.94	2.11

<sup>a</sup>ERS. "Farm Real Estate Market Development," CD-80. July 1975. U.S. Department of Agriculture, Washington, D.C.

<sup>b</sup>State cash rent divided by weighted average of \$5.75.

<sup>c</sup>Weighted by animal unit months developed from Western Livestock Grazing Survey, 1966.

private grazing land within the allotment; and (4) the total year-round feed requirements for range livestock. This dependency of use can vary from a low of 5 percent to a high of 90 percent among individual ranchers and ranching areas (Caton et al., 1962). Generally, Federal grazing fees represent a larger share of the operating cost for a permittee with a high dependency than one with a lower dependency. Under these conditions, the economic effects of grazing fee increases on operating cost and net income are more evident on high-dependency permittees than on low-dependency permittees (Caton, et al., 1962).

An arbitrary index example is shown in the following table with fees decreasing as the dependency increases.

Dependency Percent	Index	Base AUM Fee/AUM	1976 Fee/AUM
Less than 11	115	\$1.94	\$2.23
11 to 25	110	1.94	2.13
26 to 40	105	1.94	2.04
41 to 55	100	1.94	1.94
56 to 70	95	1.94	1.84
71 to 85	90	1.94	1.75
Over 85	85	1.94	1.65

#### Comparison of Options

The variable fee options are based on the reality of the diverse nature of the public lands and the obvious differences in the use of the land. Most of the variable fee options explored are related to or measured by physical characteristics, but the options are not always reflected in economic value in a consistent relationship. The most difficult situation is that economic value is not a parallel or direct correlation with physical values. "It is simply infeasible to identify precise (economic) markets on the basis of physical or geographic information" (PLLRC, 1970).

Considerable comment has been received recommending variable fees. The intent and understanding behind these recommendations are not entirely clear or consistent. Requests for variable fees generally appear to be from those who believe they should have a lower fee because of specific conditions related to their grazing use. An average of these conditions has been established under the single fee and means that for each instance where a lower fee would be charged because of less desirable characteristics, then a higher fee must be charged for the allotments with the more desirable characteristics. Variable characteristics do not justify lower fee levels but might be used to distribute the incidence of a fee's application among different situations.

Variable fees can also be viewed as a means of maximizing the total receipts from grazing. A variable fee system, assuming appropriate knowledge of the variable values, can more closely reflect marginal values. Variations to reflect an economic disadvantage are a clear and understandable basis for varying a fee downward while the assessment of higher fees to collect for economic advantages is frequently viewed as an attempt by the Government to collect the last dollar of revenue.

In total then, the sum of all the bases for variable fees on both physical and economic criteria suggested that little justification exists for varying fees. For each condition or characteristic that should cause the fee to go down, another basis exists for increasing the fee. Such an outcome is consistent with the functioning of a competitive economic system which expects prices to move toward an equilibrium. While on a case-by-case basis the appropriateness and utility of a variable fee seems to be obvious, extension of the examples into a usable fee system has not been possible.

When considering such objectives as the collection of FMV, administrative feasibility, reasonable costs to Government, reasonable costs to the permittees, accurate measurement of economic variables, and availability of common data, nearly every option has unacceptable deficiencies. The only option appearing to have probability of usefulness, given current knowledge, is some variation by age of animal as reflected by the AUM conversion factors in common usage.

#### ADMINISTRATIVE COSTS

This section discusses administrative costs that would be required to implement one of the alternative fee systems or variable fee options. The current uniform fee system is relatively efficient for FS and BLM to administer and is used as a base to measure the "extra" cost, associated with other alternatives and/or variables.<sup>1</sup> The present "red tape" cost and detail required of the grazing permittee are also used as a minimum level. Agency costs related to use supervision, unauthorized use control, allotment studies, range improvements, and billing notices are expected to be similar for most fee systems and are not included in this cost discussion.

A matter of concern with any Federal fee system is governmental administrative cost and effort required of the citizens, in this instance, the permittee. A comprehensive variable fee system as compared with the present uniform fee system could be opposed on administrative grounds because of the additional cost in manpower and associated expenses for both the agencies and the permittees (BOB, 1964).

Since the geographical location, size, and accessibility of the allotments and variations in procedures used by the agencies result in variation in costs, the estimates used in this section are considered to be an average of those variables.

#### Alternative Fee Systems

The comparable administrative cost for the ANCA proposal, the Technical Committee proposal, and the House Interior Committee proposal should be similar to the current system since they are associated with established USDA data series.

The AFBF proposal utilizing the Technical Committee formula modified by including a capitalization of permit value at 4 percent would also be similar in administrative cost to the current system except for the data on permit value. There are unresolved questions relative to what portion of premium sales value is attributable to grazing livestock on public lands and what portion is associated with other factors (DeNio, et al., 1967, PLLRC, 1970b). The 4-percent capitalization rate is also subject to question as being higher than the rate of return on other ranching investments (Caton, et al., 1962). Verification of the public lands permit value share of ranch sales value and the 4 percent capitalization rate would require a major study covering the 25,000 permittees and many ranch sales in the Western States. An economic study of this magnitude could be expected to cost approximately \$1 million.<sup>2</sup>

The competitive bidding alternative might be handled by either public oral auctions or a sealed bid with a minimum appraised price.<sup>3</sup> Without other preference factors, the mechanics of bidding would award the grazing privileges to the highest qualified bidder when there are multiple bidders. A bargaining procedure might be necessary when the legal and physical access factors associated with the public and adjoining private lands make it feasible for only one rancher to graze the public lands (DeNio et al., 1967, Wyatt et al., 1965).

The administrative cost of operating a grazing use bidding system would depend upon the complexities of such a system. Using the McGregor Range situation as a sample, a bidding procedure could be expected to about double the present cost estimate of \$0.05 per AUM.<sup>4</sup> To determine and verify a minimum acceptable fee would require an appraisal of private grazing rental rates in comparable range market areas (Roberts and Topham, 1965). Conducting a survey and analyses to determine range market areas and making appraisals of approximately five range market areas per State at \$10,000 per area would cost an estimated \$500,000.

## Variable Fee Options

Increased costs would be associated with additional studies and analyses, and would vary with the intensity required for the selected variable fee(s) approach. The extra cost to the permittee would be in direct relationship to the extra time required to supply additional information requested, complete applications, or handle livestock.

Variable fee(s) based on forage quality, forage quantity, or season of use, would require additional study and analyses of allotments to establish and verify the specific factors selected and geography area boundaries. The information is generally available for forage quantity and season of use, and can be updated periodically when vegetative inventories are conducted for other resource management needs. However, additional analyses and coordination of existing data would be required to associate each permittee with the proper forage quantity or season-of-use category. To perform these analyses and coordination and verify the net suitable acres per AUM data would cost a minimum of \$500,000.<sup>5</sup>

The determination of forage quality or nutritional values for public grazing lands would require a significant additional cost for the analyses of existing data and additional vegetation collection, study and analyses. The magnitude of these costs would depend upon the nutritional quality to be measured, the number of measurements per allotment or season, the key vegetative species selected, and the utility of existing data. A minimum requirement to identify the three categories of quality listed in this chapter as adequate, more than adequate and inadequate, could take several years and cost several million dollars. Periodic updating of data and refinement of geographic boundaries would also be necessary. The nutritional value of range forage is not necessarily a direct measurement of the economic value of the grazing to a permittee.

Relating grazing fees to weight gained while livestock are on an allotment would require weighing the animals on and off the allotments. Some type of weighing procedure, either on the allotment or at some centralized convenient location would have to be provided by FS and BLM. The proximity of many permittees to their grazing allotment lets them turn their livestock directly onto the allotment by opening their front gate. Other permittees may trail their livestock a short distance to their allotment, while others may have yearlong use. This variation in location and use would provide difficulties for any weighing requirement.

The small number of livestock that are presently being trucked to and from the allotments could be weighed at existing

commercial scales. For all the others (and this could be the majority), weighing facilities would have to be provided by FS and BLM either at central or onsite locations. On yearlong ranges, all livestock would have to be gathered and weighed once a year. Livestock removed from the allotments before the close of the grazing season or animals taken directly to market would require weighing.

Purchase of scales and installation at only 100 centralized locations would cost approximately \$500,000.<sup>6</sup> Portable scales would be needed for remote and isolated allotments, possibly costing another \$1 million. Annual additional personnel cost is estimated at \$1 million (19 million AUMs at \$0.05 per AUM).<sup>7</sup> The increased administrative cost in personnel and equipment, the extra cost and inconvenience to the permittee, and the stress on the animals resulting from corraling and weighing, make application of this proposal to over 25,000 separate and unique situations unrealistic.

Correlating animal weights with forage consumption and the AUM definition of a 1,000-pound animal equivalent would require a procedure for weighing the animals or estimating their weights. The costs for weighing would be similar to those discussed under the weight of gain option. Another alternative is to estimate average weights by age and class of animal as used in the earlier example. The increased cost would be for agency personnel to verify each animal's weight as it is turned onto the allotment. An estimated annual cost of \$0.025 per AUM for 19 million AUMs would total approximately \$500,000.

Substituting the stage of maturity (age) for weight of livestock would simplify the procedure for establishment of AUM coefficients based on forage consumption. Additional cost for administering a variable fee system based on age classes would be negligible, about 10 percent more than the estimated current cost of \$0.05 per AUM. There would be additional cost to the permittee in preparing a more complex annual application based on ages of animals expected to graze on public lands. If the animals were not counted onto the allotments, some other form of verification checks of age group numbers may be required.

Basing a variable fee on the share of construction and/or maintenance performed by each permittee would require eliminating the current maintenance and depreciation allowance used in determining the existing 1966 base fee of \$1.23 per AUM. It would require a separate fee computed for each permittee based upon detailed accounting records maintained for each permittee. Depreciation schedules and interest rates would have to be established to amortize the costs and a system for verifying permittees investment cost would be necessary (Wyatt et al., 1964). The

specific improvement credit per AUM computed each year for each permittee would be subtracted from the fee per AUM to arrive at the total billing. The Federal Government could also recapture its share of range improvements by using a grazing fee surcharge or addition to the base fee (Wyatt et al., 1964).

The additional administrative experience of record keeping and determining individual fees using an improvement credit or surcharge has not been evaluated. However, the administrative cost to verify and keep individual records for 25,000 permittees would be significant. A conservative estimate of \$50 per record to establish, would cost over \$1 million and an annual update cost of \$20 per record would be approximately \$0.02 per AUM.

Other suggested variable fee factors of topography, multiple use management considerations, distance between waters, dependency by use, and others, would require additional allotment study and evaluation. Most of these subjective evaluations could be arrived at over the next 5 years through intensive allotment studies. Previous cost estimates for range allotment appraisal have been placed at \$25 million (USDI, USDA, 1962), or about \$45 million in 1976 dollars.

Utilizing individual States' cash rent data would not increase cost unless the data are questioned and require additional sampling or verification. Table 15 provides summary cost estimates for determining fees by each discussed alternative fee system and variable option.

TABLE 15

Summary of Estimated Cost to Determine  
and Collect Grazing Fees

Procedure	One Time Cost (\$1,000)	Annual Cost Per AUM
Fee Systems		
Current System	\$----	\$0.05
Modified 1969 System	----	0.05
ANCA Proposal	----	0.05
Technical Committee Proposal	----	0.05
House Committee Proposal	----	0.05
AFBF Proposal	1,000	0.05
Bidding Proposal	500	0.10
Variable Fee Option		
Allotment Appraisal	(45,000)	----
Forage Quantity	500	----
Forage Quality	2,000	----
Weight Gain	1,500	0.05
Topograph	500	----
Management Policies	500	----
Cash Rents	----	----
Animal Weights (estimated)	----	0.03
Animal Age	----	0.01
Range Improvements	1,000	0.02

## FOOTNOTES

<sup>1</sup>Agency cost to administer fees under the current fee system is estimated to average \$0.05 per AUM per year. This estimate is based on data from FS and BLM cost accounting systems and interviews with range management personnel. As an example, an assumption can be made that one employee could "count-on" 200 head of cattle in 1 hour with 2 hours of travel time. Each head of cattle is converted to 4 AUMs.

<sup>2</sup>Assumes a 20 percent sample or 500 ranch sale appraisals at \$2,000 each.

<sup>3</sup>Use of a bidding procedure would require a change in the Taylor Grazing Act of 1934, regulations in use by BLM and FS, and perhaps in the BLM Organic Act (PL 94-579).

<sup>4</sup>The extra cost associated with a bidding system would be (1) establishment of a minimum appraised value, (2) establishment of bidding procedures for competitive and noncompetitive areas, (3) preparation of invitations to bid, (4) conducting the auctions on competitive bid areas, (5) negotiating fees on noncompetitive areas, and (6) preparation of individual billings on each competitive or noncompetitive bid area.

<sup>5</sup>Existing data on acres per AUM carrying capacity for BLM are in relationship to total gross acres within the allotment boundaries. A recomputation would be necessary to delineate unsuitable range for 8,000 allotments. Assuming an average cost of \$50 per allotment would result in a cost estimate of \$450,000. Assuming a recheck of 1,000 Forest Service allotments would result in a cost of approximately \$50,000.

<sup>6</sup>Mr. Butch Patterson of the Toledo Scales Company, Washington, D.C. gave an estimate of \$2,800 to \$5,700 for livestock scales plus \$2,000 for excavation and set up. Assuming a total of 1,000 head (cattle) were weighed per year, the cost to amortize a \$5,800 cost over 20 years at 7 percent interest rate would be 45 cents per head or about 11 cents per AUM (using 4 AUMs per head of cattle).

<sup>7</sup>Assuming that it would take 1.5 additional hours to weigh 100 head (cattle) on a typical allotment, the extra cost would be about \$10.50 per allotment twice a year. This would be equivalent to \$0.20 per head (cattle) or \$0.05 cents per AUM (1 head equals 4 AUMs).



## CHAPTER 5

### OPPORTUNITIES FOR FURTHER ANALYSIS, RESEARCH, OR TESTING

#### RESEARCH AND ANALYSIS

The direction provided in Public Law 94-579 that identifiable users of public lands should pay fair market value (FMV) for services received, places a burden on the agencies to determine this value. Applicable information needed for this determination is not available. This chapter addresses some of the areas where additional data are needed to clarify the issues involved.

#### Study of Private Leasing Arrangements

In the current (1969) grazing fee system, FMV fee was developed by comparing public land user nonfee costs of grazing with private land lessee nonfee costs plus the private lease rate. Essentially, the theory is that a rancher preparing a bid to graze private lease land will look first at the total obligation of leasing the land. He will estimate the costs of these obligations and subtract them from the total amount he is willing to pay. The residual will be the cash amount he will bid for the lease. The 1969 fee base of \$1.23 was developed by screening the private lease data to include those leases that required essentially the same obligation of the lessee as the Government does of the permittee.

The private lease data used to determine the current level of FMV, however, are not screened to determine just what the lessee obligations are. This has become a matter of concern to some since the typical landlord-tenant lease arrangement is not known. Additional study is necessary in this area to determine the typical lessor-lessee relationship, and the actual cost of these obligations to the lessee. This will require a major survey of private leases.

Such a survey and analysis would help provide answers to major questions now being raised. It would help to determine what the private grazing land lease rate data include as lessee obligations. It would give needed insight into what the Government requires of permittees relative to what the private lessor requires of the private land lessee. Do private leases include a significant number of emergency situations requiring rental of grazing? Are private leases predominantly short-term?

## Study of Private/Federal Operating Cost Differentials

### Nonfee Costs

The analysis of the 1966 Western Livestock Grazing Survey estimated the costs of grazing public and private lands. It is generally conceded, however, that costs on both public and private lands have changed over time. The 1966 study indicated nonfee costs were greater on public lands. Little information presently exists to indicate if the relative costs of grazing public and private lands have increased, decreased or remained constant since 1966. If the nonfee costs of public grazing have increased at a more rapid rate than have private grazing costs, the difference between public and private grazing has been reduced. Thus, there is need to determine the changes that have occurred. Some of the cost items that might receive particular attention include:

1. Costs associated with the implementation of special grazing systems and other intensive management practices.
2. Costs incurred by ranchers that, in reality, benefit other users.
3. Costs borne by other users that benefit grazing.
4. Costs borne by ranchers that result from the use of public lands by other user groups (e.g., vandalism of fences, spring developments, and water troughs).

Some other issues that might also be addressed in a large nonfee cost study include:

1. The competitiveness or substitutability of alternative private forage including irrigated pasture.
2. The unit to be sampled (e.g., allotments).

### Permit Values and Sales

It has been predicted that as the fee and nonfee costs of public forage increase, the value of holding Federal permits (Permit Value) should decrease. Comprehensive recent research does not exist with which to test the hypothesis that permit value has declined or to specify the cause of change.

If permit values have declined, this may be due to several factors. First, it may provide evidence that public fees are approaching FMV. Second, decline may be due to decreased stability associated with the use of Federal lands, which may also explain why differences exist between Bureau of Land Management (BLM) and Forest Service (FS) permit values. Third, decline may indicate that ranchers have incurred expenses to improve private lands and thus diminished

their dependence upon Federal forage. Finally, a decline indicates that present permit holders are selling their permits now at a lower value, rather than risk the loss of the total value of these capital assets in the future.

If permit values have not declined, many of the corollary questions raised in the previous paragraph are suggested. In addition, it might indicate (in the event that many of the permits were purchased by nonranchers) that other interests will begin to dominate grazing discussions in the future. If nontraditional grazers are beginning to dominate, management implications would indicate decreased dependence on public lands.

Study is needed to determine just what is happening to the permit value. Is the permit value increasing in spite of increased fees? If so, do increases in permit value mean that the fees are even lower now relative to FMV than they were in 1966?

#### Alternative Sources of Forage

The 1966 fee study emphasized public (BLM and FS) and private forage. In some areas, however, other public agencies (States, Bureau of Indian Affairs, U.S. Geological Survey, Department of Defense, Fish and Wildlife Service, Bureau of Reclamation, National Park Service, State Fish and Game, etc.) provide forage for grazers. These agencies might also provide estimates of the value of forage in local areas by determining the fee and nonfee costs of using these lands.

#### Selected Surveys

With the time and resources available for this grazing fee study, it was not feasible to undertake a major data collection effort. In order to make a more comprehensive analysis of some aspects, it would be desirable to obtain new data. Some options are:

1. New 1980 version of 1966 Grazing Fee Study. A number of questions have been raised with respect to the 1966 study. Were the private fee data obtained for private rangelands really comparable to public rangelands? Were all the private lease rate studies genuinely competitive? Have maintenance, predator losses, and other costs of grazing on public lands shifted appreciably relative to the costs on private lands?

One way to provide an answer to these questions may be to undertake a new updated version of the 1966 fee study. This might be done in several ways. The large sample size for the 1966 study reflected a concern to analyze the question of whether variable fees would be justified. If variable fees were not to be analyzed, a smaller sample of public and private ranchers might be adequate.

The selection of types of ranches to be included in the sample could also be made to meet different statistical criteria.

2. Detailed analysis of how permittees do and could participate in the construction of range improvements, and the basic justification for their participation in capital investments.
3. The costs and other problems posed by a new survey of all the factors considered in the 1966 study may be excessive. Nevertheless, it might be desirable to conduct a smaller survey of certain selected items. For example, a common complaint is that the death losses due to predators on public lands have increased substantially in recent years. A special survey could be undertaken to study this question alone.
4. Another issue is the extent to which forage quality and resulting livestock productivity vary among areas and allotments. A survey could be undertaken solely to examine this question.
5. Another concern is whether private grazing land lease rates have increased faster than the "true" adjustment of private leases included in the 1966 survey. A survey could be undertaken to examine this issue. A possibility would be a sample of private lease rates taken from operations included in the sample of the 1966 Western Livestock Grazing Survey.

## TESTING

The following items indicate the type of administrative studies and data collection activities that could be conducted or sponsored by BLM and FS on a continuing basis.

### Competitive Bid Data

Competitive bidding on Federal lands administered by FS, BLM, and other agencies is discussed elsewhere in this report. The purpose of this testing is not to establish competitive bidding as a procedure to be used by BLM and FS, but to use as a measurement. The FS and BLM would collect data on competitive bidding for grazing livestock as conducted by Federal agencies. The data would be identified as to requirements and restrictions on grazing use. Such data would be collected annually and livestock price and weather conditions related to the bids would be tabulated. Analysis of this data could be used to measure trend in bidding rates, discounting for restriction on use and

impact of unusual weather or economic conditions. In summary, regular collection and analysis of competitive bidding data would provide sample data as to grazing value. These data could then be compared with the fee as determined by the system in use.

In addition, if bidding is to be given consideration and procedures designed that would meet all of the objectives of FS and BLM grazing programs, then additional knowledge of competitive bidding processes is imperative. One of the first concerns is the demand for Federal grazing lands. It is necessary to know if an adequate market exists with sufficient potential bidders. This question must be answered in order to determine what a policy of a 50 or 200-mile limit for bidders would cause in relation to the local demand.

Added information is needed on such questions as where to advertise, and what information to include. It would help determine the need for informational tours of the allotments, or how to provide adequate information to potential bidders, or the length of permit or lease best suited to a given area.

Knowledge would also be needed to determine the minimum acceptable fee for each allotment advertised. This would have to be done by allotment because the particular requirements, constraints, and conditions on the allotment could influence the quantity of the bid.

#### Private Grazing Land Lease Rates

Further study and analysis of private lease rates is also appropriate. In 1977, FS and BLM sponsored further data collection by Statistical Reporting Services, United States Department of Agriculture, through their standard surveys. This data collection and analysis could continue on an annual basis regardless of the particular fee system used. For example, a new series of questions will be added to the December 1977 survey. Continuing work in these matters could eventually resolve some issues.

## SUMMARY

This section discussed some opportunities for additional research, analysis, and testing. One area needing further study is the typical lessor-lessee relationship and the distribution of costs. Two major questions need to be addressed: first, what do the private grazing land lease rate figures measure, and second, what obligations are required of Federal land permittees that are not required of the lessee by the lessor?

Another area of potential study need is the private versus public grazing land user operating cost differentials. Are they both moving together and at the same rate, or is the difference widening or narrowing?

A study could be made of permit values and sales to determine what has happened to them since 1966. Are they increasing and, if so, why? What does this mean in terms of the relationship of fees charged by the Government and permit value?

A study similar to the 1966 Western Livestock Grazing Survey could help answer some of the questions that have arisen with respect to that study or to what has happened to permit value.

The possibility of competitive bidding on public lands has raised many issues that could be studied. These concern the market area, minimum acceptable bid levels, how many years should a lease be permitted, and how to determine when allotments should be put up for bid.

## CHAPTER 6

### RECOMMENDATIONS AND CONCLUSIONS

In development of the recommendations in this study, consideration has been given to the many suggestions and proposals supplied by private individuals, permittees, organizations and members of Congress, as well as those items included in legislation pertaining to public land grazing fees. We believe the objective of charging fair market value (FMV) for grazing livestock is established and clearly justified as providing the most satisfactory approach to assuring equitable treatment for all parties concerned with the administration of public lands.

#### RECOMMENDATIONS

The Secretary of Agriculture and the Secretary of the Interior recommend that the 1978 Public Land Fee System be used to establish grazing fees. This system would be a continuation of the basic fee system implemented in 1969, with selected modifications.

The 1966 average FMV of \$1.23 per AUM would be retained and adjusted annually by the percent change in the charges for grazing under private leases. Until FS and BLM fees reach FMV level, the adjustment of fees would be limited to a 25-percent change per year. After fees have reached FMV, then the fee for any one year would be limited to increases or decreases of not more than 12 percent of the previous year's fee.

This recommendation should result in the attainment of a fair market value fee by 1980 or 1981, depending on future changes in private grazing rates relative to the 25-percent limitation. Starting in 1980, annual adjustments in the fee level would be made by using improved data on charges for private leases. This new data would replace currently used data which are collected in March by the Farm and Ranch Report questionnaire from the Statistical Reporting Service, U.S. Department of Agriculture.

If the new system is not adopted, then the fee for 1978 would rise significantly more rapidly under the provisions of the 1969 system, to \$2.09 and \$2.15 for BLM and FS respectively. Under the new fee system, the grazing fee increase for 1978 would be held to \$0.38 because of the new limitations placed on fee increases. Under the recommendation, the resulting public lands grazing fee for 1978 will be \$1.89. Those FS permittees currently paying fees ranging from \$1.51 to \$1.94 would be charged \$1.89 making FS and BLM fees identical for 1978 and succeeding years. In addition, there are some FS permittees currently paying fees

below \$1.51; these fees would not be increased to \$1.89 (which would be more than 25 percent), but would be increased at the rate of 25 percent until FMV is reached.

A limited variable fee would be established starting in 1980 for a certain size-age livestock category. A different fee would be charged for certain yearling cattle and weaned lambs under specified circumstances. The FS and BLM would work with the permittees in 1978 and 1979 to implement this variable fee procedure in a practical manner.

Although consideration was given to inclusion of permit value as a nonfee cost in the calculation of the base grazing fee, this procedure is not recommended. Inclusion of permit value in the fee formula would result in grazing fees below FMV and, in effect, would transfer a portion of the capitalized value of future grazing from the Federal Government to those who graze on Federal lands.

The recommended 1978 Public Land Fee System responds to concerns that have been expressed in the long and continuing controversy over grazing fees. The new system provides for continuing refinement of data and for implementation of a limited variable fee by size-age of livestock. The recommendation includes continued review and improvement of data collected on private lease rates for livestock grazing.

The objective of collecting FMV as stated in Section 102(a) of the Federal Land Policy and Management Act of 1976, is achieved by this recommendation. In addition, the objectives of Section 401(a) are achieved because a fee that is equitable among permittees and nonpermittees and which provides the general public an equitable return on its resources is best defined by market values. The test of reasonableness of fees is met by use of the FMV criteria as it is "reasonable" to expect permittees using Federal grazing lands to pay fees equivalent to those they would pay if they rented in the private sector.

## CONCLUSIONS

A brief summary of the conclusions follows. In some instances, other alternatives or options have considerable merit. However, the various elements of the 1978 Public Land Fee System have been designed to work in conjunction with one another and to be applied uniformly and fairly to the numerous and diverse situations occurring on the National Forests and public lands administered by FS and BLM.

## Collection of FMV

The collection of FMV fees for grazing should be the basic policy of the Federal Government for the public range. Such a policy has not been interpreted to mean the maximum fee the market will bear. In determining FMV the practice has been to select the conservative values where uncertainties occur in supporting data and analysis. Therefore, the fee determination represents an effort to find that fee level which is a reasonable interpretation of what an equitable FMV fee for public grazing lands would be.

## Agricultural Income and Grazing Fees

The issue of livestock producers' income (fair share, parity or ability to pay), is separate and distinct from the issue of grazing fees to be paid by livestock producers who use public rangelands. The solution to economic and drought problems of agricultural enterprises must be sought in the broad range of Federal economic policy. The USDA has a continuing policy of assistance to the agricultural industry as necessary and appropriate within existing authority. Reducing grazing fees in an attempt to increase income of livestock producers would be an inequitable form of agricultural subsidy because it would be available only to those livestock producers who are also public range users. The relative economic condition of the total livestock industry should not be used as a factor to determine Federal grazing fees for a limited part of that industry.

The cost of production, when defined as total production expenses, is part of the farm income problem but is not a direct consideration in determining grazing fees. Use of total cost of production was rejected because the income problem of livestock producers and their related ability to finance production costs is an issue separate from the collection of Federal grazing fees based on market values. The product being valued - livestock grazing for a specific time - represents only a portion of the total livestock operation costs. Public land grazing as one factor or cost in the production process cannot be expected to provide for the profitability of the whole enterprise. Pricing of public land for livestock grazing is the pricing of only one factor in production, similar to the pricing of a pickup truck sold to the permittee, as opposed to the broader spectrum of product prices, energy costs, interest rates and inflation.

## Permit Value

Inclusion of permit value as a nonfee cost in the grazing fee formula was determined to be inappropriate because the resulting fee would not represent FMV. Permit value has been

created largely because the grazing fees charged were less than FMV. To include the capitalized permit value in the fee formula would be to perpetually keep the fee at a level less than FMV.

Reducing grazing fees by inclusion of permit value as a nonfee cost would allow transfer of the capitalized value of the public grazing resource to the permittees away from the landowner, the general public. The results would not be equitable either to the public or to other livestock producers who do not have the opportunity to graze cattle on public lands.

The practice of transferring a Federal grazing permit from a permit holder to the new owner of the base ranch property provides the mechanism for the transfer of permit value. The Government's continual honoring of permit transfers to purchasers of base property and livestock was necessary to enhance stability and security in ranching communities where use of public lands was important. Thus, recognition of one goal, stability, worked adversely with respect to another goal, the collection of appropriate fees.

The history of grazing fees (Chapter 2) illustrates the numerous efforts to charge fees at fair market levels. The history also shows the repeated objection by permittees that fees could not or should not be increased because the grazing was not worth the higher amount. Simultaneously, however, ranchers were paying premium rates for ranches with FS or BLM permits in order to acquire the use of public lands with low grazing fees. It was not the purpose of Government policy to allow the growth of permit value and an obligation to protect and support permit value has not been established.

#### Private Grazing Land Lease Rate Data

The use of data on private grazing land lease rates from the probability surveys of the SRS is recommended for use in the 1978 Public Land Fee System. However, in computing fees for 1978 and 1979, we would continue to use the data from the March Farm and Ranch Report.

The use of the probability surveys would be delayed until 1980 because of the difficulties of establishing a reliable data series on one or two year's data. The 1977 data collected on the June and July surveys are fully consistent with the values of the 1977 March Survey selected for use in computing 1978 fees. The 1978 fees would be established using the adjusted 11-States average of \$7.06 per head per month.

## Inflationary Aspects of Increased Grazing Fees

The inflationary impact potential of increased public land grazing fees on the national economy is minimal. Ranchers are not able, in the short run, to pass increased production costs on to the purchasers of their products. That is, they must accept the prices offered for their livestock when the livestock are ready for market. (This situation contributes to the rancher's income problem.)

A minimum of 62.5 percent of all grazing receipts are returned to the Western States area. Fifty percent of the receipts are returned, as appropriated, for range improvements and restoration (Range Betterment Fund of FLPMA of 1976). Twelve and one-half percent (BLM) and 25 percent (FS) of the receipts are returned to the State and/or county governments. Therefore, most of the grazing fees paid to the Federal Government remain in the area of origin for investment on the Federal rangelands or as support for local government budgets.

Grazing fees are paid into the Federal Treasury and except for the share returned by law to the States and counties, are available along with other funds (primarily taxes) for appropriation and expenditure. Fees not collected are not available and must be replaced by additional taxes from other persons or businesses. Therefore, the inflationary impact is not reduced by not collecting grazing fees.

### Variable Fees

Most of the variable fee proposals have been rejected, for reasons of administrative complexity, cost of administration, insufficient data, or simply lack of adequate relationship to grazing value. The recommended variable fees for certain yearlings and weaned lambs provide an adjustment which can be administered with existing data and procedures. The classification is, of necessity, somewhat arbitrary. Further breakdown of the livestock categories would be an excessive administrative burden for permittees and the Government. The yearling and weaned lamb categories used are common classifications and will not require additional classifications of animals by size or age, although they will require additional identification and counting.

Many of the variable fee options are based on certain physical relationships which are real and, in some cases, measurable. However, none are consistent measures which allow accurate application across grasslands, mountains, desert, winter, spring, fall, summer, sheep or cattle. Frequently, the physical measures do not show a consistent correlation with economic value.

## Technical Committee Proposal

The proposal of the Technical Committee to use an annual adjustment comprised of changes in beef cattle price minus changes in the price of items used in production averaged with the private rental rate, is not recommended. The Technical Committee proposal has considerable merit and conceptually could have been accepted without serious reservations. In particular, the concept of measuring both long and short-term changes in value of grazing to determine annual change in grazing fees is desirable. However, implementation is not feasible because the data necessary to measure these short term changes are inadequate. Beef cattle prices as a measure of change in value of product and the index of prices paid as a measure of changes in cost of production are too broad and too general to be satisfactory estimates of a specific grazing value. If the prices received less prices paid index is a reflection of short-term fluctuations, then the sum of the annual deviations from the private rental rate should equal zero. However, this is not the case, and frequently this type of index is used to measure the trend in general farm profitability and farm income. Thus the prices portion of the index measures trend rather than short-term instabilities. This limitation is even more significant because the recent energy and inflation problems have caused considerable change and fluctuation in these prices series. The path of the prices paid index in future years is very uncertain.

The primary purpose of the Technical Committee recommendation for use of prices received and paid indexes was to eliminate short-term instabilities. This did not occur as evidenced by the wide fluctuations shown in figure 4-5, Chapter 4. The 1978 Public Land Fee system proposal provides specific limits of 25 and 12 percent and accomplishes similar purposes directly.

The prices received less prices paid portion of the Technical Committee formula also introduces factors relating to the "ability to pay" concept which deviates in the short run from the FMV concept. Fair Market Value fees are not intended to assure profitability, but rather assure that users of public land grazing are on equal basis with those grazing livestock on private land. Other programs of the Federal Government, in particular those of the Department of Agriculture, would be the appropriate tools for application to the overall economic welfare problems of the livestock industry. If subsidies or other assistance are necessary or desirable to assure profitability of the livestock industry, then they should be directed through the general programs of the Government rather than indirect subsidies in the form of low grazing fees which benefit only those cattle and sheep producers using public lands.

## The 1969 Fee System

The fee system implemented in 1969 is retained as the foundation for the recommended 1978 Public Land Fee System. Refinements to the data series used to make the annual FMV adjustments are under way. The 10-year phase-in schedule to reach full FMV has been cumbersome and delayed by moratoriums. The scheduled adjustment of fees to FMV within the next few years would have required large annual percentage increases in grazing fees. Staying on the 1969 Fee System Schedule would require 34 and 38 percent increases for 1978 over 1977 fees for FS and BLM respectively. Implementing the 1978 Public Land Fee System will limit these increases to 25 percent. Finally, the 1969 system does not include provisions for a variable fee.

## Competitive Bidding

Competitive bidding is rejected as a means for determining fees. Competitive bidding would take account of the varying values inherent in the market for grazing. However, competitive bidding is rejected because it would be disruptive to the stability of permittees dependent upon public land forage and the stability of affected communities. In addition, since a considerable portion of the public lands is isolated and available to only a few users, competitive bidding would not be a feasible procedure.

## Other Alternatives

The ANCA, House Interior Committee and AFBF proposals have not been adopted. The ANCA and House Interior Committee proposals do not establish fees at FMV. Both formulas use a form of the prices received less prices paid index, which does not measure changes in grazing value. The AFBF proposal was not adopted because it requires that fees be reduced by the capitalized permit value and also does not result in a fair market value fee.



APPENDIX A

A REPORT PREPARED BY THE TECHNICAL COMMITTEE ORGANIZED TO  
REVIEW PUBLIC LAND GRAZING FEES,  
DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT,  
AND DEPARTMENT OF AGRICULTURE, ECONOMIC RESEARCH SERVICE,  
STATISTICAL REPORTING SERVICE AND FOREST SERVICE

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# REVIEW OF PUBLIC LAND GRAZING FEES

November 15, 1976

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## SUMMARY

The Technical Committee to Review Public Land Grazing Fees was formed by a Memorandum of Understanding on July 12, 1976 between Economic Research Service (ERS), U.S. Department of Agriculture (USDA); Statistical Reporting Service (SRS), USDA; Forest Service (FS), USDA; and Bureau of Land Management (BLM), U.S. Department of Interior (USDI). The committee was formed to prepare a report on "Public Land Grazing Fees." The specific tasks of the Technical Committee were:

1. To examine the present procedures for establishing grazing fees.
2. To examine the several alternatives which have been proposed as replacement or modification for all or portions of present procedure.
3. Identify available or additional secondary data which might enhance the present or alternative procedures for determining fees.

The review was conducted within existing administrative mandates that a fair market value fee must be collected and that permit value would not be considered a valid cost factor for determining public land grazing fees.

In order that the review be helpful in resolving or reducing the controversy about grazing fees, two meetings were held so that the various interest groups could present their views on the public land grazing fee issue, suggested alternatives, and factors to be considered and/or clarified.

Evaluation of the existing system of fee determination or the suggested alternatives requires a criterion for comparison. Although there is no obvious way to determine what is "fair," it can be shown that the competitive norm satisfies the conditions of a welfare ideal. Few economists would claim that pure competition does or ever has existed, but it does provide a logical starting place for evaluation of a great many economic problems. The competitive norm incorporates the efficiency concept of equimarginal resource returns, where the value of a resource is determined by its value in use.

The 1969 system (the method used during the 1969-1976 period for grazing fee determination by BLM and FS) includes three major elements. The first is the economic model and data collection survey used to establish the fair market value fee level of 1966. Second is the 10-year adjustment of grazing fees from previous levels to the fair market value level. Third, the procedure used to make annual adjustments in the fair market value. Nearly all of the controversy surrounding the

grazing fees issue concerns the adjustment factor. The procedure involves adjusting the 1966 base fee of \$1.23 to current values by the Index of Private Land Lease Rates in the 11 Western States for dry land range.

A number of alternatives have been suggested by various groups to update or adjust the base fair market value fee of \$1.23. Although each proposal is different, they all bear the same basic concept which is that adjustments should be made by changes in the price of output relative to changes in the price of inputs. The formula most often suggested was a Beef Price Index minus a Cost of Production Index. Other suggestions include arbitrary constraints on yearly adjustments or the use of moving averages.

A major concern at the external meetings was the quality of the data used to compute the Index on Private Land Lease Rates. There was also concern about the components of cost that were included in the Prices Paid Index (to be used as Cost of Production Index) as well as a redundancy between the Beef Price Index and the Prices Paid Index. The committee suggested that data on private land lease rates could be improved if it were collected on a probability list frame sample that included only livestock operators instead of on a general Farm Report questionnaire. New questions were also suggested for the data collected. The Prices Paid Index could be improved by eliminating a number of cost items not relevant to western range livestock production. The redundancy in the Beef Price Index could be eliminated by excluding calves.

With a history of a market economy for all other products and resources used in agriculture, the obvious solution would be a competitive bidding system for the use of the public range. However, tenure arrangements, institutional goals, management restriction, and location of grazing lands has effectively eliminated the competitive environment. Therefore less efficiently administered pricing schemes must be developed. The task of the Technical Committee then became one of recommending the proper "proxy" for the competitive bid.

Adjusting grazing fees using the Index of Private Land Lease Rates (current method) may best be described as the comparative market approach. It is based on the premise that an individual will not pay more for the use of a resource than his next best alternative, or conversely, the owner of a resource should receive a value equivalent to that which could be realized from the next best alternative use of that resource. The committee felt that the index was a good indicator of long term adjustments taking place in western range livestock industry. It duplicates economic adjustments in the competitive sector, and is the only alternative suggested or discussed that incorporates measures of technical efficiency.

Improvements made in the data collection process and discussed in the previous section should eliminate concern about the relevancy and accuracy of the data. However, the Technical Committee was concerned about the ability of the index to reflect short run instabilities that result during periods of demand, supply, and price disequilibrium. In the past this index has failed to account for short run instabilities.

The combined index (Beef Price Index minus the Prices Paid Index) was rejected by the committee as the only adjustment factor in the grazing fee formula because it does not respond to long run adjustments in resource use or efficiency, and would result in a declining real rent over time. However, it was felt that the combined index did reflect short run instabilities in the value of the range resource. Recognizing the strengths and the weaknesses of the current formula as well as the alternative formulas, the Technical Committee recommended the following formula for determining grazing fees levels on public lands:

$$\text{FMV Fee/AUM} = \$1.23 ((L+P) \div 100)$$

L = The improved Index of Private Land Lease Rates

P = The reconstructed Index of Beef Prices minus the Prices Paid Index (selected items only)

This formula is recommended in the light that it provides for a consistent and efficient method of pricing the public grazing resources. The long run trend is based on the value of the alternative resource while at the same time accounting for short run instabilities in either livestock prices or input prices. The committee has further recommended an improvement in the data collection procedures on the private land lease rates. Some modification was also suggested for the Prices Paid Index to make it more accurately reflect western range livestock operations.

November 15, 1976



## I

### INTRODUCTION

The Technical Committee to Review Public Land Grazing Fees was formed by a Memorandum of July 12, 1976, in response to the request of Subcommittee on Environment and Land Resources, Committee on Interior and Insular Affairs, United States Senate, at the April 30, 1976 Committee Hearing on S.3071. This report of the Technical Committee is transmitted to the Assistant Secretary for Conservation, Research, and Education, USDA; Assistant Secretary, Land and Water Resource, USDI; and Director of Agricultural Economics, USDA.

The purpose of the review is to consider and examine the present 8-year-old formula for determining grazing fees in light of the criticism directed at it and the alternatives proposed.

The review by the Technical Committee:

1. Examines the present procedures for establishing grazing fees
  - in light of recent criticism
  - in light of its fulfillment of expectations in 1968-69,
2. Examines the several alternatives that have been proposed as replacement or modification for all or a portion of present procedures.
3. Identifies available or additional secondary data which might enhance the present or alternative procedures for determining fees.

The analysis by the Technical Committee:

1. Determines the validity of various fee procedure proposals relative to the existing system and the existing Administration mandates.
2. Indicates combinations of data or procedures which are compatible with existing Administration mandates.
3. Indicates the ranking of the several proposals based on economic criteria.
4. Indicates usable data in modification of existing procedures.
5. Provides the basis for decision within the Administration on further action regarding fees.

## II

### LIMIT OF SCOPE

The review was conducted within existing Administration mandates that a fair market value fee must be collected (Bureau of the Budget (BOB), Circular No. A-25) and permit value would not be considered a valid cost factor for determining public land grazing fees. The collection of new primary data was not to be included in the study. However, the need for new studies and/or collection of primary data could be a conclusion of the review. The review and analysis were limited to a search of and use of available secondary data. New tabulation of existing data, new indexes, improved methods of collection of data for existing data series, or new use of existing data were considered.

External Consultations. In order for this review to be helpful in resolving or reducing the controversy about grazing fees, it must serve to increase general understanding as well as meet technical criteria. The livestock industry, through the American National Cattlemen's Association and the Public Lands Council, was fully informed and involved in defining the nature and extent of this Review of Grazing Fees. The appropriate professionals of the Western universities were informed and involved. The environmental concerns were kept appraised through the National Wildlife Federation and the Wildlife Management Institute.

A meeting was held in Denver, Colorado on August 25, 1976. A second meeting was held in Washington, D.C. on September 20, 1976. At both meetings participants from the above listed interest groups presented their views on the public land grazing fee issue.

### III

#### CRITERIA FOR DETERMINING FAIR MARKET VALUE OF PUBLIC GRAZING

An expression currently in vogue with younger people goes "Whatever is fair," or a slightly different expression, "Fair is fair." Like many slang expressions it does not have a precise dictionary definition, but its use connotation translates roughly "If you are satisfied, I'm satisfied." In short, "fair" expresses mutual satisfaction between parties involved. The key word is mutual. Fair also suggests justice or equity.

Economists have found no obvious way to determine what is "fair." Welfare comparisons would be relatively simple if it were possible to aggregate the utilities of individuals into a single utility function. However, welfare comparisons of individual utilities are possible only in a very restricted sense. It is reasonable to postulate that social welfare transcends the more restricted notion of economic welfare, but for obvious reasons this analysis will be restricted to the latter.

Economic efficiency, often called Pareto optimality, states that the distribution of consumer goods and productive inputs are optimal if any feasible reallocation of goods or inputs causes a reduction in the satisfaction or output of any individual or firm. It can be shown that a perfectly competitive equilibrium satisfied these conditions, and thus perfect competition is a welfare ideal in this sense. Efficiency in the consuming and producing sectors implies further that the allocation of resources is Pareto optimal throughout the economy.<sup>1</sup>

A difficulty with the concept of economic efficiency or Pareto optimality as a welfare criteria is that it accepts the prevailing income distribution, i.e., return to resources. It is conceivable that the norm of perfect competition could lead to a condition in which the majority of individuals lived at subsistence or below. The analysis of welfare in terms of perfect competition leaves a considerable amount of indeterminacy in the solution. This indeterminacy results from the acceptance of the criteria that an increase in welfare was unambiguously defined as an increase in one individual's position without being accompanied by a deterioration in the position of another. This indeterminacy can only be removed by further value judgments.

An Economic Norm. The above discussion stresses the inability of economic analysis to handle a welfare criterion outside of the norm of economic efficiency. To do otherwise would require value judgments or ethical considerations outside the subject of economic analysis.

Few economists would claim that pure competition does or has even existed in the United States economy. However, pure competition provides a logical starting place if one is to understand imperfect competition. Further it has been shown that a considerable amount of competition does

exist, particularly in agriculture, and that the theory of pure competition gives valid answers to a great many economic problems.<sup>2</sup> Lastly the pure competition model provides a norm or ideal from which to appraise the workings of the economic system. In the latter sense it is often used for regulation of imperfectly structured sectors of the economy, such as public utilities, as well as many other public policy measures.

The term competition is used rather ambiguously in economic literature as well as in ordinary conversation. To many people the term commonly denotes rivalry. Whereas, when used along with the term pure or perfect, it takes on a different meaning. From the illustration and previous discussion, competition implies mutual satisfaction, fair market value, and efficient resource allocation.

Resource Pricing Under Pure Competition. Pure competition in the resource market implies a number of conditions: one, no single firm controls enough of any given resource to be able to influence its price; two, no one supplier of a resource can place enough on the market to influence its price; and three, resources are mobile and can move between different uses and its prices are flexible.

How, then, are resources valued in production? Let us look at the simultaneous pricing and output of decisions involved in the use of a variable resource in the organization of production. Suppose two ranchers are living in the same community, one with an excess of summer forage, and the other badly in need of more summer forage. Further, they know of each other's problem. Rancher Tom, who needs more forage, goes to rancher Ray to see about renting some of his summer pasture.

"Ray," says Tom, "would you consider renting me some pasture for the summer? I need some grazing for one of my cows. I'd pay you \$60 for the privilege."

Ray, thinking to himself that the extra grass is only worth about \$5 if he used it, replies, "Sure, Tom, glad to help out."

Tom was willing to pay \$60 for the privilege, while Ray figured it was only worth \$5 in its existing use. Both men were satisfied and felt that a "fair" deal had been reached.

The bargaining is not over yet though. Ray, having rented a unit of summer grazing, found he didn't have such an excess of pasture anymore. Tom's problem, on the other hand, was not so urgent anymore, as he didn't find himself in the same need for summer pasture. An additional unit of summer pasture is now only worth \$40 to Tom. Trading of grazing privilege for rent would continue between Tom and Ray until eventually the forage was of equal value to both ranchers. In other words, the last unit traded would have equal marginal value to both Tom and Ray in production. Thus, a mutually advantageous trading situation

had been achieved, and maximum efficiency had been attained by both. No further trading of grazing privileges would be advantageous to either party. The equimarginal principle had been achieved.

In a free competitive market for forage, both Tom and Ray would trade grazing privileges for cash rent until a "fair" market value had been reached by both parties. In addition, an efficient allocation of resource would have resulted. Generalizing from this simple illustration, it may be said that the principle of equimarginal value in use asserts that an efficient allocation of forage has been attained when no mutually advantageous exchanges are possible between any pair of claimants.

Theoretically, the manager combines his resources such that the marginal value product of each resource is equal to the marginal value product of all other resources used in production. The attempt is to combine all of his resources (e.g., land, labor, capital) in such a manner that the productive values of the last unit of each resource added are all equal. To maximize profit, the manager organizes resources such that the marginal value product of each resource is equal to each other and to the marginal revenue received from the last unit of output. This procedure is called the equimarginal principle and can be defined by a simple formula:

$$(1) \quad MVP_a = MVP_b = MVP_c = MC_x = MR_x = P_x$$

where:  $MVP_i$  = marginal value product of the  $i$ th resource in production.

$MC_x$  = sum of the marginal value products of the  $i$ th resources combined to produce output  $x$ , or the equivalent of marginal costs of production of the  $x_{i\text{th}}$  output.

$MR_x$  = marginal revenue of the last unit of output  $x$ .

$P_x$  = market price of output  $x$ .

In a competitively structured society the organization of production is determined by the principal forces of supply and demand. This basic framework, along with the decisions of the human agents involved, and tempered by the intensities created by the time, form, and place lead to a reasonably efficient duality of resource pricing and allocation. This has been particularly true in agriculture because of the absence of barriers to entry (except high capital requirements), homogeneity of the product between firms of like output, agriculture's atomistic structure, and the relative mobility of resources both into and out of agriculture. A large number of research studies have verified the long-run efficiency of agriculture.

The Real World. The discussion to this point has considered only the "ideal" resource pricing and allocation system. Economic efficiency and the assumptions of a competitive system were discussed, as well as

reference to United States agriculture industry generally conforming to these standards. Theoretically, agriculture should be efficiently organized, at least in the long run adjustment period, and few people familiar with United States agricultural production would argue its resource and technological efficiency.

However, production levels, resource allocation, and pricing have not been so efficient in the short run adjustment period for many sectors in agriculture. Animal production, and in particular the primary production level for both beef and lamb, has demonstrated relatively inefficient production adjustments in the short run when measured against the neoclassic model which was described as the "ideal" system.

Twenty years ago Glen Johnson and others postulated the theory of fixed assets, where a fixed asset is defined as one for which the marginal value productivity of a resource in its present use neither justified acquisition of more of it, or its disposition. Acquisition cost is what a farm or ranch operator would have to pay in order to acquire more of a particular productive asset. Salvage value is what the operation would get for the asset if it were sold rather than used in production. Neoclassical theory, which defines the equimarginal principle, assumes that markets are such that a manager can purchase more of an asset if it was profitable and that he can dispose of unwanted quantities at the same price. This is tantamount to saying that a firm will continue to produce in the short run as long as it realizes a return on its variable resources, or stated differently, a firm in the very short run can survive with no return to its most fixed assets if its cash flow is adequate to cover variable expenses. However, the difference between the theory of fixed assets and the neoclassical theory is that resources usually considered variable in production actually become fixed in their present use. For example, labor and capital are normally considered variable resources. However, at primary production levels these variable inputs actually become fixed to the firm because their alternative use outside of production can temporarily drop as far as zero. The value in use that would be expected to accrue to these resources is often used by managers to bid up the use value (returns) of resources that continued to remain variable. In the theory of fixed assets, Johnson has pinpointed the reason for extremely inelastic or irreversible supply functions during periods of decreasing marginal revenue.<sup>3</sup>

Let us examine some of the components of agriculture, in particular the primary production level of livestock that leads to this type of behavior during periods of decreasing product price levels.

First, the combination of resources used in the production process is not discrete, but a bundle or package of resources. Marginal changes in revenue may not cause an adjustment in output levels or resource use because the bundle of resources cannot easily be separated. For example, the physical amount of labor available to the operator may be fixed over a rather large range of production, but the use value of the labor is

variable. The balance between summer and winter forage may be unalterable, at least in the short run. If a shortage of summer pasture should occur, the firm may be forced to bid up the value of this resource while simultaneously taking smaller returns on the remaining resources in the bundle, even in the face of decreasing marginal revenue for their product.

Second, variable resources become fixed because of the length of the production process. The primary reason for this is the time required for the biological process for plant and animal production. It may take 2 or more years from the time a market stimulus is received at the primary production level until actual output adjustments can be achieved. Time requirements for an increase in production can take 3 years or more for obvious reasons. The time aspects alone could cause inelastic short run adjustment in resource use and output levels.

Third, the demand curve faced by the firm is perfectly elastic, while that of the industry is inelastic. Individual firms fail to adjust output levels in the short run, because of the atomistic structure of the industry.

Fourth, the duality aspect of the price system may work imperfectly. The role of price as a mechanism of trade is generally regarded as extremely efficient. However, the role of price as an organizer of production generally lacks the same performance standard. The problem may be that the human agent may be unable to bridge the gap from present product prices to expected price levels in the future. This lack of adjustment is closely related to length of the production process.

In summary, this discussion has pointed out some of the reasons that competitive or "ideal" system leads to short run imperfections regarding resource valuation at the primary production levels of agriculture. The principal reason cited was the concept of the fixity of assets. While the competitive norm accurately values resources in the long run, it has some shortcomings in the short run adjustment period. Short run instabilities have a significant effect on the value of resources used in production. In the case of administered prices, failure to recognize potential imperfections in the price norm results in windfall gains and losses. During periods of increasing marginal revenue, the Government would fail to receive full fair market value for its range resources. Conversely, during periods of decreasing marginal revenues, the Government may charge in excess of fair market value for the range resource. The equimarginal principle states that the value of a resource is determined by its value in use.

#### IV

#### CONDITIONS, ASSUMPTIONS, AND ISSUES

The Committee uses the concept of an animal unit month (AUM) throughout the report. An AUM is the amount of forage consumed by a cow-calf unit during 1 month. Other livestock are converted to the AUM equivalent. However, the concept is extended to recognize that with the forage the consuming animal unit also has use of a habitat, a place to live. This habitat includes the forage, watering facilities, fencing, and other improvements necessary to make the range usable by livestock and to provide for control of the livestock.

Institutional Goals. It is the objective of the FS and BLM to contribute to the economic stability of individual ranch units to the fullest extent possible and consistent with protection of the resources and its long-term productivity. This has resulted in establishment of policies on which allocated grazing privileges are based as follows:

1. Prior use
2. Dependency, or the need for forage to round out a yearlong livestock enterprise
3. Commensurability (the ability to carry livestock on home ranch lands during the time they were not on public lands)
4. Ten-year, renewable grazing privileges

The effect of these actions is to maintain long-term availability and use of public land associated with a given ranch unit. These provisions allow the operator to plan long-term enterprise development and investment.

Community Stability. Grazing of livestock, under permit, on the public lands has a substantial impact on the rural communities associated with that grazing. The greater the percentage of land held in Federal ownership, the more the area or communities' basic economic activity relies on use of Federal land, and the greater the impact of Federal policies on the total economic activity and stability of those rural communities.

Conservation and Economic Efficiency of Resource Use. Direct involvement in the development and long-term use of land resources is generally considered to provide incentives for protection and economic development of the resource. Essentially, security of tenure provides the ability to plan ahead for a reasonable length of time with some degree of certainty.

### Relationship of Fees to Total Complex of Uses of Public Lands.

Commercial enterprises using the public lands all pay fees which are intended to be the equivalent of fair market value. The only users exempt from payment of fair market value are those involved in individual or group activities primarily for personal enjoyment.

Adjustments in Cost Structure Needed to Reflect Government Requirements and Environmental Adjustment. It is claimed that there have been relative changes in the FS/BLM nonfee grazing cost over the private land leasing costs over the past 8 years. The three most often cited examples of increased cost to the rancher grazing on public lands are:

1. Increased animal (sheep) losses because of restricted coyote control on public lands.
2. Agency requirements for increased rancher participation in structure maintenance.
3. Agency requirement for increased participation of ranchers in grazing management practices.

If these claims were, in fact, true then the next logical step would be to determine the magnitude of the cost change and make the corresponding corrections in the nonfee grazing cost which would increase combined Federal grazing cost and reduce the base fair market value of \$1.23 per AUM.

The fundamental basis for the claim of increased sheep losses due to predation is the restriction placed on some coyote control practices on public lands. While some individual rancher losses may have increased, there are no substantive data to quantify the claim. Also, the nonfee public grazing costs are weighted by corresponding AUMs for sheep and cattle and increase in sheep cost would have limited effect on the weighted average.

The Federal agency policy for rancher participation in maintenance of livestock facilities has not changed. There has, however, been an increase in the application of the maintenance policy in some range areas that previously were not fully affected by maintenance requirements. In recent years it has been BLM policy not to encourage the rancher to construct facilities on public lands because of possible multiple use management conflicts. Again, there are no quantifying data to support the contention that relative changes have taken place in the overall project maintenance and depreciation costs between private and Federal grazing lands.

The third item relates to increased emphasis placed on intensive grazing management of rangelands and usually associated with some "system" of grazing control. These grazing systems or management plans usually require the movement of livestock between pastures several times

during the grazing season to insure that multiple use objectives are met and the physiological needs of the desirable vegetation are taken care of. While some increased operating cost may be incurred, there are direct compensating benefits to the rancher of increased stocking rate stability, decreased livestock conflicts with wildlife habitat requirements, improved range conditions and usually increased animal production. Increasing numbers of ranchers are leading the way in intensifying grazing management efforts on private lands so the condition is not unique to public lands. The costs and benefits to the public land user resulting from intensive management cannot be identified in this review.

## EXISTING AND SUGGESTED ALTERNATIVES FOR FEE DETERMINATION

The 1969 fee system (the current method used for grazing fee determination by BLM and FS) includes three major elements. The first is the economic model and data collection survey used to establish the fair market value fee level of 1966. Second is the 10-year adjustment of grazing fees from previous levels to the fair market value level. Third, the procedure used to make annual adjustments in the fair market value.

The Economic Model and Grazing Survey of 1966. The economic model was designed to measure the value of grazing on public lands through a detailed comparison of grazing costs on public and privately owned leased lands. The model is based on the premise that the total on-the-range costs of grazing on public lands and on privately owned leased lands should be equal and would represent a means for determining fair market value of public grazing. The public grazing fee would be the amount necessary to equalize the private land lease plus the on-range-cost of using the public lands.<sup>4</sup> In other words, the public grazing fee would equal the private lease rate minus the difference in costs incurred in using public range versus private range.

Because the economic model required data only from operating livestock production units, it eliminated most of the influence of nonlivestock grazing related values, and only measured the level of total costs operators were willing to incur in leasing privately owned land for grazing purposes. The model specifically measures the different and varying requirements placed on the lessee or permittee by both the private and Government landowner. The model measured the value of contributions required by either landowner, including the requirement for construction, repair, replacement and maintenance of permanent improvements.

The data for use in the model were collected by SRS in 1966. Ten thousand individuals were interviewed and over 14,000 questionnaires were completed. Interviewees included FS and BLM grazing permittees, ranchers who leased private land, and lending institutions.

The data were analyzed by a Technical Committee composed of representatives of the SRS, ERS, FS, BLM, and BOB (now Office of Management and Budget). The Technical Committee came to the following conclusions: (1) the data did not provide a basis for differential fees between FS and BLM, thus, the data could be combined and a single fee established for BLM and FS grazing; (2) the data did not provide a basis for establishing separate fees for cattle and sheep; (3) the data and analysis provided a basis for a public land grazing fee of \$1.23 per AUM.

The conclusion of the Technical Committee provided the basis for the establishment of \$1.23 per AUM as the fair market value grazing fee level for 1966 on public lands in the West.

Ten-Year Adjustment Period. In order to minimize the impact of adjusting from BLM's \$0.33 fee in 1966, and FS's average fee of \$0.51, a 10-year schedule was developed for adjusting to the \$1.23 fee level. By spreading the increase in fees over a period of time, the initial impact of the fee increase on the permittees would be minimized and allow a normal adjustment to this increase. The FS starting in 1969, would add \$0.072 to the fee charged in 1966 for each of the next 10 years. The BLM would add \$0.09 to the fee charged in 1966 for each of the next 10 years. The result would be that by 1978 both FS and BLM would be at the 1966 fair market value figure of \$1.23.

Adjustments in Fair Market Value. Adjustments to the fair market value level of \$1.23 per AUM in 1966 were necessary to reflect changes over time in the profitability of range livestock production and prevent future inequities between Federal grazing fees and the value of the range forage for grazing use. The base fee was adjusted annually with an index of private grazing land lease rates for the 11 Western States. The private grazing land lease rate is the charge per head per month for pasturing cattle on privately owned lands. The actual values are converted to an index (1964 - 68 = 100) in order to measure the rate of change in this price series. The index is then applied to the 1966 base of \$1.23.

The private land lease rate was selected for the adjustment factor because it was an existing and available data series, and it represented changes in the economic value of grazing use. It is representative of the economic value of grazing because it is established by the amounts livestock producers are willing to offer for the use of available private grazing lands. Given these conditions, it is expected that these offers represent the value of grazing to the livestock producers.<sup>5</sup>

Alternative Fee Systems. A number of alternatives have been suggested by various groups to update or adjust the base fair market value fee of \$1.23. Although each proposal is different, they all have the same basic concept. This concept is that adjustments in the base value (\$1.23) should be related to changes in the price of the product and to changes in the price of inputs. The procedure intends that when the change in value (price) of products (beef cattle) is larger than changes in price of inputs (cost of production), then fees should increase. If the change in costs exceeds the change in product value, then the fee should decrease.

$(BPI - PPI) + 100 = CI$ . This formula would replace the private land lease rate formula for the necessary update adjustments for the 1966 base, and for lack of a better name is called the Combined Index. In this formula BPI is an index of weighted average annual prices for

beef cattle, excluding calves, for the 11 Western States. The base would be 1964 - 68 = 100. The Prices Paid Index (PPI) is an index of prices paid by farmers for commodities and services, interest, taxes and farm wages, as collected and published by the SRS in Agricultural Prices. The index would be adjusted to the base of 1964 - 68 = 100.

Another suggested alternative using the Combined Index as a replacement for the private land lease rate would be that the data would represent a simple moving average. This would have the effect of reducing the impact of large yearly variations in the level of grazing fees.

A third suggested alternative would be to add the Combined Index to the currently used index of private land lease rates. In this formula, when divided by 2, 50 percent of the change in the lease fair market value (\$1.23) would result from the private land lease rate index and 50 percent from the Combined Index.

Santini Formula. This set of alternatives uses the Combined Index, but also replaces the \$1.23 base for fair market value in 1966 with other value(s) for 1975. The Santini Formula would establish two groups of grazing lands based on carrying capacity of the public lands. The constant or base figure for Group I lands is \$1.70 and for Group II lands is \$1.40 per AUM.

A version of the above, called the Modified Santini Formula, would make adjustments using the Combined Index, but the base would be \$1.51, the average grazing fee charged in 1976 by BLM and FS.

The Hansen Formula, which was contained in S.3071, is the same as the Santini Formula except the Beef Price Index would be computed using prices for the 48 states and the PPI and BPI would be a moving 3-year simple average.

Economic Relief Formula. The Economic Relief Formula (so named for lack of an alternative) uses the current formula based on \$1.23 and the private land lease rate index, with a separate analysis of the PPI and BPI or some similar indexes, to trigger needed adjustments in the current fee due to stress economic conditions, as indicated by the BPI and PPI analysis.

A number of other alternatives have been suggested to limit the impact of large changes in economic conditions. One suggestion was to limit the amount of increase that could occur in any period by a fixed percentage. Another suggestion was to incorporate a rolling 3-year average into the existing formula.

Discussion. Most of the alternatives proposed have merit, and suggest the interest and responsibility of users of and those interested in the use of the public lands. All of the alternatives proposed, including the current system, have advantages and disadvantages. In

other words, there is no perfect lease arrangement, but only better or worse arrangements. This may explain the large variability of lease arrangements in effect around the country between landlord and lessee. Logic and reasonableness do, however, provide a basis for reducing, if not eliminating, conflict between interested parties. The task of this Technical Committee is to consider the alternatives in light of the economic criteria and recommend a method for determining a fair market value.

# VI

## DATA SOURCES

A primary objective of this committee was to identify existing data sources, and/or refinements to existing data sources, and/or additional data that might be collected to enhance the present or alternative procedures for determining grazing fees.

A major concern at the external group meetings was the quality of the data that are used to compute the index on private land lease rates. There was also concern about the components of cost that were included in the prices paid index, as well as a possible redundancy in the Beef Price Index and the Prices Paid Index.

Private Land Lease Rates. The SRS currently obtains information on the average rate of pasturing cattle on nonirrigated PRIVATELY OWNED LAND on a per head per month basis. The survey is a nonprobability survey; data is collected in March each year on a general Farm Report questionnaire. Table 1 indicates the number of responses to the question on pasturing cattle on privately owned nonirrigated pasture land for 11 Western States for the years 1967-75.

TABLE 1

Number of Responses by State by Year to Question  
on Pasturing Cattle on Privately Owned Nonirrigated Pasture Land

State	1967	1968	1969	1970	1971	1972	1973	1974	1975
Montana	242	148	196	229	151	168	180	104	159
Idaho	133	73	104	88	85	89	69	57	77
Wyoming	72	56	50	44	45	29	28	81	64
Colorado	219	177	...	...	229	213	242	260	218
New Mexico	76	65	34	39	39	36	49	31	39
Arizona	17	14	17	15	10	15	10	7	4
Utah	80	71	85	104	95	120	84	77	90
Nevada	...	19	...	17	11	8	8	8	9
Washington	176	132	132	128	115	81	104	66	97
Oregon	198	142	158	143	72	72	120	67	89
California	138	95	98	132	148	130	125	63	119
Total	1,351	992	874	939	1,000	961	1,019	821	965

The SRS Farm Report questionnaire is mailed to a nonprobability general purpose list, including grain farmers, dairy farmers, fruit farmers, etc. In the 11 Western States, approximately 12,500 questionnaires are mailed in March. The question on pasturing cattle on privately owned, nonirrigated land is summarized and provided to ERS, for analysis and publication. The FS and BLM use these data in adjusting the

Range Forage Index (RFI) each year based on an average head-month rental of \$3.65 for the 1964-68 period equal to 100. The adjusted RFI for each year is the 11-State average head-month rental for that year divided by the \$3.65 AUM average.

Data Improvement. The SRS currently has operational two mid-year probability surveys in the 11 Western States. One of the mid-year surveys is a cattle multiple frame survey that utilizes a list frame with a nonresponse follow-up. The second probability survey, known as the June Enumerative Survey, consists of land areas and identifies operations not covered by the list frame. About 10,800 multiple frame questionnaires were tabulated in nine Western States in 1975. In addition, the June Enumerative Survey, a probability area frame survey, which is conducted in the other two Western States, had approximately 1,700 survey questionnaires completed last year. If it is desirable to have the adjustment factor for the Range Fee Index to be on a probability basis, the vehicle is available to provide this type of information. Questions that would be added to the mid-year survey are as follows:

All Nonirrigated Grazing or Pasture Lands

1. Average rate for pasturing cattle on  
PRIVATELY OWNED LAND in this area this  
year per head per month \_\_\_\_\_
2. Do you personally rent privately owned  
nonirrigated pasture on  
a) a per head per month basis? \_\_\_\_\_  
b) a per acre basis? \_\_\_\_\_
3. If yes, how many head of cattle are you  
pasturing this year on the privately  
owned nonirrigated pasture? \_\_\_\_\_
4. How many days will you have these  
cattle on the rented pasture? \_\_\_\_\_
5. Total rent paid for pasturing these  
cattle on privately owned pasture this  
year \_\_\_\_\_

The cost of adding these questions to the surveys would be \$20,000.

Index of Prices Paid by Farmers. The Index of Prices Paid by Farmers measures the average change in prices paid for commodities and services bought by farm families.

The index is made up of five major components. In terms of farm expenditures, the two most important components are the index of prices paid for commodities used in farm production and the index of prices paid for commodities used in family living. These two indexes comprise the Index of Prices Paid by Farmers for Goods and Services. The remaining three components of the index are: (1) interest charges per acre on mortgage indebtedness secured by farm real estate; (2) taxes payable per acre on farm real estate; and (3) wage rates paid to hired farm labor.

Two major indexes within the Prices Paid by Farmers Index are stratified further into 18 group indexes. The Farm Production Index is divided into 12 groups indexes - feed, feeder livestock, seed, fertilizer, agricultural chemicals, fuels and energy, farm and motor supplies, autos and trucks, tractors and self-propelled machinery, other machinery, building and fencing materials, and farm services and cash rent. The Family Living Index is divided into six group indexes - food, clothing, housing, auto and auto supplies, medical and health, and education, recreation, and other.

As of June 15, 1976, the farm production component of the index included 169 different commodity price series; the family living component 152 items - for a total of 321. Prices for 25 items are used in both family living and production indexes leaving a net of 296 separate price series. In the Family Living Index the medical, health, education, recreation, and other indexes are based on Consumer Price Indexes from the Bureau of Labor Statistics, and are excluded from the commodity price series count.

Price data used in the computation of the various indexes are collected largely by mail from independent and chain stores serving rural areas. Separate commodity price estimates are made for independent and for chain stores as of the 15th of the quarterly month. These separate price estimates are weighted together to obtain averages of prices paid by farmers for most family living and farm production items. In other months, prices are estimated only for chain stores which provide the basis for current index computations for the interquarterly months.

The United States commodity prices are computed by weighting State estimates of average prices by the estimated quantities of products purchased by farmers in each State. United States average prices are then combined into the group indexes, using as weights the estimated quantities of the individual commodities purchased by farmers, based on 1971-73 surveys of farmers' expenditures. Official data of the Agricultural Research Service and the Agricultural Marketing Service are also used to supplement the survey indications.

Group indexes are combined into their respective family living and production indexes, using percentage weights representing the estimated proportion of expenditures of farmers for each commodity group. These also were derived primarily from the 1971-73 Expenditure Surveys. The family living and production indexes are in turn combined into the all-commodity index of prices paid, using weights representing the proportionate expenditures for these two segments. In like manner, all commodities, interest, tax, and wage rate components are weighted, on the basis of relative expenditures, for the Index of Prices Paid by Farmers.

Data Refinement. If certain components of the Index of Prices Paid were needed to comprise a new index to reflect cost of production of cattle producers in the United States, the SRS could provide such an index. Possible components to use in indicating cost of cattle production from the Index of Prices Paid are motor supplies, motor vehicles, farm machinery, farm supplies, building and fencing materials, interest per acre, and wage rates. Weights could be derived from the 1975 Meat Animals - Cost of Production Survey conducted by SRS for the ERS. Data from this survey are currently being summarized by ERS and should be available for analysis by January 1, 1977. The new index could then be used in a combined index formula. One such formula would be to subtract the Prices Paid Index from a Beef Price Index. The resulting combined index multiplied by a base fee would result in the annual grazing fee. This, or some derivative to determine an annual grazing fee, is possible to compute if such a formula were used.

Beef Cattle Price. Monthly, the SRS publishes an all beef cattle price for all States and for the United States. This price is comprised of a weighted average of (1) steer and heifer prices and (2) slaughter cow prices. An allowance, if necessary is made for slaughter bulls. Data used in making these commodity estimates includes prices from market news sources, tabulated auction sales data, and survey data from individual farmers.

State data are then weighted by historic beef cattle marketings, by month, for each State to establish the monthly beef cattle price for the United States.

The SRS can provide the annual average price for beef cattle and lambs for any grouping of States. Final State prices are weighted by marketing data. Groupings of 11 States and 15 States have been made available to FS and BLM for many years, for administrative use only. Final annual average prices by States are published in the February issue of Agricultural Prices. The April issue contains United States averages.

## VII

### EVALUATION OF VARIOUS FEE FORMULAS

With a history of market economy for all other products and resources used in agriculture, the obvious solution to the problem of pricing public grazing would be to open it up for competitive bidding. After all, competitive bidding would extract the full fair market value of public range for the public coffers. It would allow all citizens to compete for the use of the resource, and at the same time keep our public ranges producing beef and mutton. In addition, resource use and product output would be at its marginal value product level, and the public good would almost certainly be served by the resultant competitive conditions.

However, a competitive bidding system would presume a relatively free and competitive market, a condition that does not exist for many users and potential users of public grazing on BLM and National Forest lands. Institutional goals, tenure arrangements, legislative requirements, and management restrictions of the National Forest System and Taylor Grazing Districts effectively eliminate a competitive environment. The location of grazing allotments, property boundaries, terrain, and water development further reduce the competitive environment. It has been estimated that as much as 20 percent of BLM land is "captive" in that it would be difficult if not impossible for any other livestock operator to use certain public land tracts. Other lands are grazed in common by a number of livestock operators and should not be broken up into separate allotments. Thus, the competitive bidding system appears infeasible.

As the necessary conditions for an operational system do not exist, less efficiently administered pricing schemes must be considered. In each of these pricing methods, the objective is to simulate the competitive bid by employing "proxy" variables derived from the competitive environment of the livestock industry.

It is the task of this Technical Committee to attempt to recommend the proper "proxy" for competitive bid. Attention will be directed to the Index of Private Land Lease Rates and the Combined Index (BPI-PPI). The committee will also comment on the two-tier fee system proposed in S.3071.

Index of Private Land Leased Rates. This method may be best described as the comparative market approach. It is based on the premise that an individual will not pay more for the use of a resource than his next best alternative, or conversely, the owner of a resource should receive a value equivalent to that which could be realized from the next best alternative use of that resource. Using this premise, the public grazing fee should equal the private grazing rate, less the difference

fee formula, the absolute level is ignored and only the rate of change over time is used to update the base fee of \$1.23 for 1966.

The use of the comparative market approach has considerable merit. First, its value is derived from the competitive environment. Second, it theoretically measures changes in efficiency of range resource use over time. Third, it should give a close estimation of the fair market value that would be obtained under a competitive bidding system. Thus, it would also fulfill the criteria of the "ideal" pricing system. Fourth, it reflects changes in the level of economic parameters such as the inflation rate, purchasing power of the dollar, and the value of farm real estate.

Critics of the Index of Private Land Lease Rate point out that land prices and net rents have a strong functional relationship. They argue that land prices on a per acre basis have increased six fold during the last 30 years, while net farm income per acre has shown no distinct trend during the same period. This behavior is hypothesized to be related to pressure for farm and ranch enlargement. Because land is a limiting resource, an increasing portion of net farm income is being capitalized into the land resource. Active farmers and ranchers attribute near zero value to their labor, management, and some of their invested capital in order to pay for land, thus, violating the equimarginal principle for resource valuation.

Another argument against the Index of Private Land Lease Rates is directed at the accuracy of the data. It is argued that the data represent nonlivestock uses. Others point out that typical leases in the private sector are not negotiated on a head-month basis, and that those responding to the survey question are not making proper transition from the actual existing lease to the head-month lease basis.

The position of the Technical Committee is that the Index of Private Land Rates is a good indicator of long term adjustments taking place in the western range livestock industry. It duplicates economic adjustments in the competitive sector, and is the only alternative suggested or discussed that incorporates measures of technical efficiency. Improvements made in the data collection process and discussed in the previous section should eliminate concern about the relevancy and accuracy of the data. However, the Technical Committee is concerned about the ability of the index to reflect short run instabilities that result during periods of disequilibrium. In the past, the index has failed to account for short-run adjustments in resource valuation.

Combined Index. This formula consists of the Index of Beef Prices and the Prices Paid Index. The formula was suggested by the American National Cattlemen's Association (ANCA) and is usually referred to as the parity formula or the "ability to pay" formula. Several slightly differing versions have been offered but the Combined Index has been the nucleus of all of the proposals.

The goal of parity in the past was generally ridiculed by economists as not being meaningful. But parity, as defined in terms of equal resource returns, should be close to their hearts; after all, the concept of "equal resource returns" is a primary condition defining the most efficient allocation of resources in the competitive market. When all factors are employed so that marginal returns to resources are equated within the industry and between agriculture and the nonfarm economy, maximum output of goods and services are obtained.

A second source of support for the Combined Index is related to economic stability. Returns to resources in the long run have demonstrated an efficient agriculture and, in particular, beef cattle production. However, the cattle industry has shown a considerable degree of instability in the short run return to resources. The instability results in windfall gains and losses to both the Government and the ranchers alike.

Critics of the Combined Index insist that the formula is not directly measured in the competitive market, and consequently contains no measures of long-run efficiency in resource use. It is based on the premise of constant purchasing power or constant relative income and does not allow for resource adjustment. A second part of the above argument is that cost of alternative or substitute inputs is not considered and thus it is not a fair proxy for the competitive market.

The formula has also been criticized for containing elements in the indexes which are not used in western range livestock production (e.g., seed, fertilizer, etc.). It is pointed out in the previous section on DATA SOURCES that these elements could be deleted from the Prices Paid Index and proper weights be reassigned from the cost of production study currently in progress by ERS and SRS.

The third major criticism relates to the fact that the index does not respond to the inflation rate or the value of the purchasing power of the dollar. If the combined index was used as the only method of adjusting grazing fees, the public would receive a declining real rent in the long run. In effect, the rent that the rancher paid for the use of the resource would only be at "fair market value" in the base period.

The Technical Committee noted the shortcomings as well as the advantages of the Combined Index. The index was recognized as a poor indicator of long run adjustments because of the behavioral nature of indexes measuring differing sectors of the supply-demand model simultaneously. For this reason, the committee rejected the use of the Combined Index as the sole adjustment factor in any grazing fee formula. However, the committee also recognized the inability of the Index of Private Land Lease Rates to measure short run instabilities, particularly in an environment where the value of the resource (public grazing) is a derived demand from the product it produces (beef and lamb). Therefore, the committee concluded that the range fee formula should include factors

that measure changes in the value of the range resource in both the long run and the short run.

The Two-Tier System, S.3071. A procedure requiring the establishment of two levels of grazing fees based on the number of acres required for an AUM has been proposed by the Public Land Council and was outlined in S.3071.

The variable fee hypothesis suggests that the value of native rangelands for livestock grazing is directly related to only one element of the lands, the density of desirable vegetation. If rangelands had no other characteristics and ranching operations were all the same, this hypothesis might be a reasonable assumption. However, these Federal rangelands have many features and conditions, some constant and some changeable, that affect their economic value to the individual stockman. Forage quantity as a component of grazing value, varies in terms of quality from place to place and from season to season. These variations do not directly change the relative dollar value of the grazing since availability and cost of alternative feed sources for each individual rancher also impact on the economic value of the native forage to the livestock producer.

As an example of conditions that do not support the variable fee argument, consider: (1) grazing capacity allowance for livestock may be reduced to accommodate wildlife and wild horse habitat needs and therefore would not relate directly to forage quality or land productivity; (2) intra-allotment differences in forage production and grazing conditions are just as variable as inter-allotment differences; (3) livestock water may be the limiting factor on some rangelands and not forage quantity; and (4) winter ranges (usually of low productivity) may have greater economic value to the stockman than summer ranges (usually of higher productivity) because the alternative is to feed expensive hay.

In setting up the 1966 Western Wide Grazing Fee Study, there was then, as now, a strong belief by some that a variable fee case could be made on the basis of one or more of the qualitative variables such as grazing capacity, season of use, geographic area, or vegetative type. One of the conclusions of the study was that there was no basis for recommending differential base fees among ranching areas.<sup>6</sup> An independent analysis by BLM during 1967 identified that there are larger user-cost differences between ranchers within any categorical grouping than between the groups.<sup>7</sup> In essence, there was no statistical evidence in the study to support a variable fee. The Arthur D. Little Company, Inc., made an independent statistical analysis of BLM and private grazing survey data. The results of this independent analysis supported the previous findings.<sup>8</sup>

The suggestion that an inequity is created when the same grazing fee is charged for grazing on high productivity land as for low productivity land is misleading because the unit of measurement for public

land grazing is an AUM and not an acre of land. Also, there is no analysis available that the committee is aware of to support using 11 acres per AUM as the proper economic value point for dividing rangeland values for livestock grazing. The definition appears to be arbitrary and without foundation for establishing fees on public lands.

Under existing law and Executive policy, a variable fee system is permitted but is not required unless specific inequities can be documented. Most of the questions and issues regarding grazing fees are related to managerial judgments and general economic factors more fundamental than public land user charges. Basically, the AUM and, hence, its general market value are the same from area to area since the grazing requirements of the animals are met and the yearly production cycles of the ranches are maintained. To recognize and differentiate public land grazing fees on the basis of detailed individual differences would require individual negotiation of fees with each of the 25,000 individuals using public lands.

## VIII

### RECOMMENDATIONS

Establishing a grazing fee formula that is completely acceptable to the various management agencies and the users of public lands is a difficult task. It must accurately reflect the value of the resource and still take into account institutional restrictions and goals. Given the inability of economics as a discipline to aggregate individual utilities into a single function, the next best alternative appears to be a "proxy" for the norm of economic efficiency. In the absence of a better criteria, this value judgment will have to be acceptable.

Because a competitive environment does not exist, and cannot exist, given the current institutional constraints and goals, the members of the Technical Committee recommend the following formula as a proxy for the competitive market bid for grazing on an AUM basis:

$$FMV = A ((L+P) \div 100)$$

FMV = Fair market value for public grazing

A = \$1.23 base established from 1966 survey

L\* = Index of Private Land Lease Rates

P\*\* = Combined Index (BPI-PPI)

\* The data for construction of this index should come from the probability based combined list frame sample described in Section VI.

\*\* BPI is a weighted index of average annual beef cattle prices less calves in the 11 Western States. PPI is an index of prices paid for inputs and would include only the seven items listed in Section VI, and weighted by the Cost of Production Survey.

This formula is recommended as it provides for a consistent and efficient method of pricing the public grazing resources. The formula will reflect long run trends in grazing values while, at the same time, accounting for short run instabilities in either livestock prices or input prices. The committee has further recommended an improvement in the data collection procedures on the private land lease rates. Some modification was also suggested for the Prices Paid Index to make it more accurately reflect western range livestock operation.

The Technical Committee has recommended the above grazing fee formula on its logical consistency. The data recommended for construction of the indexes are not available for testing at this time. However, it was assumed that the values for private land lease rates to be collected using the recommended improvements would be identical to the current data methods because the values will come from the same universe.

Therefore, the value of \$3.65 from the base period of 1964-68 would continue to be the proper base for the index of private land lease rates.

It is further recommended that the mechanics of the formula be developed in detail by a work group staffed by members of FS and BLM. The committee believes an upper limit of 25 percent could be imposed in the event of changes in economic conditions that would force a sudden increase in grazing fees. Other mechanics are at the discretion of the management agencies.

TABLE 2

1969 Fee System  
Fair Market Value and Fees Actually Charged

Year	Fair Market Value	National Forest Fees		BLM Fee
		Average (Dollars Per AUM)	High and Low	
1966	1.23	0.51	1.64 - 0.19	0.33
1968	....	0.56	1.80 - 0.21	0.33
1969	1.25	0.60	1.25 - 0.31	0.44
1970	1.29	0.60	1.25 - 0.31	0.44
1971	1.36	0.78	1.36 - 0.53	0.64
1972	1.37	0.80	1.37 - 0.55	0.66
1973	1.41	0.91	1.41 - 0.68	0.78
1974	1.54	1.11	1.54 - 0.92	1.00
1975	1.96	1.11	1.54 - 0.92	1.00
1976	1.94	1.60	1.94 - 1.45	1.51

TABLE 3

## Source of Increase in Fees

	National Forests		BLM	
	<u>To 1976</u>	<u>To 1980</u>	<u>To 1976</u>	<u>To 1980</u>
	(Dollars Per AUMs)			
1966 Base Value	0.51	0.51	0.33	0.33
Sum of incremental adjustments	0.38 <sup>1</sup>	0.72	0.47 <sup>2</sup>	0.90
Sum of adjustments by private grazing land lease rate index	<u>0.71</u>	<u>....</u>	<u>0.71</u>	<u>....</u>
Total fee	1.60	1.23	1.51	1.23

<sup>1</sup>4 @ 0.072 + 1 @ 0.09 = 0.38

<sup>2</sup>4 @ 0.09 + 1 @ 0.11 = 0.47

## FOOTNOTES

<sup>1</sup>For a more theoretical approach see: Henderson, J.M. and Quandt, R.E. Microeconomic Theory, McGraw-Hill Book Company, 1968, Chapter 7, Pages 203-207.

<sup>2</sup>The assumption of pure and perfect competition is given in most introductory texts in Economics and will not be elaborated on at this time.

<sup>3</sup>The concept of asset fixity is well documented in the following list of publications:

- a. Glen L. Johnson and C. Leroy Quance, The Overproduction Trap in U.S. Agriculture, Resources for the Future, John Hopkins Press, 1972.
- b. Glen L. Johnson and Lowell S. Hardin, "Economics of Forage Evaluation," Station Bulletin 623 Layfayette, Indiana, Purdue Agricultural Exp. Station, April 1955.
- c. Clark Edwards, "Resource Fixity and Farm Organization," Journal of Farm Economics, 41, November 1959.
- d. G.L. Johnson, Supply Function-Some Facts and Notions, Agriculture Adjustment Problems in a Growing Economy, Ames, Iowa State College Press, 1958, p. 78.

<sup>4</sup>Specific items compared for differences in the cost of grazing on public lands compared to private lands include: lost animals, association fee, veterinary, moving livestock to and from allotment, herding, salt and feed, personal travel to and from allotment, water, horse, fence maintenance, water maintenance, development, depreciation, other costs, and private lease rate.

<sup>5</sup>See table 2 and 3 for charges resulting from the 1969 fee system and the source of fee increases.

<sup>6</sup>Houseman, Earl E., et al., "Special Report on Grazing Fee Study," USDA, Statistical Reporting Service, October 24, 1968.

<sup>7</sup>Progress Report on Grazing Fee Study as of August 1, 1967, USDI, Bureau of Land Management.

<sup>8</sup>Arthur D. Little, Inc., "An Analysis of Western Livestock Grazing Costs, A Report to USDI, June 1967, Case No. 69463.

APPENDIX B

REPORT OF PUBLIC COMMENTS ON FEES TO BE CHARGED FOR  
GRAZING LIVESTOCK ON PUBLIC LANDS AND NATIONAL FOREST SYSTEM LANDS  
IN THE WESTERN STATES

Prepared for  
THE GRAZING FEE TASK FORCE

by

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REPORT OF PUBLIC COMMENTS ON FEES TO BE CHARGED  
FOR GRAZING LIVESTOCK ON PUBLIC LANDS AND NATIONAL  
FOREST SYSTEM LANDS IN THE WESTERN STATES

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## INTRODUCTION: ISSUES OF CONCERN

In compliance with Section 401(a) of P.L. 94-579, a joint Forest Service/Bureau of Land Management Grazing Fee Task Force was established.

The Task Force was assigned responsibility to accomplish all activities necessary to prepare the grazing fee report for the Secretaries of Agriculture and Interior for submission to the Congress before October 21, 1977. These activities included holding regional public meetings; obtaining necessary technical data; public release of the report entitled Review of Public Land Grazing Fees submitted November 1976, which had been prepared by the Technical Committee composed of representatives from Bureau of Land Management, Forest Service, Economic Research Service, and Statistical Reporting Service; and consultation with Office of Management and Budget.

On February 4, 1977, the Grazing Fee Task Force charter and request for comments were published in the Federal Register. Attempts to inform the public and the request for comments were made through the media, livestock organizations, and conservation organizations.

The public meeting schedule permitted 30 days between notification of the public through publication in the Federal Register and the time when the first meetings began. Some organizations reported they experienced difficulty in informing their members of the issues under discussion, studying the proposals, and adopting policy statements.

In March and April 1977, eight public meetings were conducted at Albuquerque, NM; Boise, ID; Casper, WY; Denver, CO; Missoula, MT; Rapid City, SD; Reno, NV; and Washington, D.C. Oral responses were given by 142 persons of which 62 also turned in a written comment to the meeting recorder. The oral testimony was tape recorded and later transcribed. In addition, 20 written reports were submitted at meetings by persons who did not give oral testimonies.

The attendance and number of persons providing information at meetings is presented in table 1.

In addition to oral comments at the meetings, 149 letters, reports, mailgrams, resolutions, and operating cost statements were received by the cutoff date for analysis of April 26, 1977, expressing public desires and concerns about grazing management. These responses are discussed and tabulated in this report.

TABLE 1  
Summary of Public Meetings

City	Individuals Registered	Oral Statements		Total	Written Statements Without Oral
		Without Written	With Written		
Rapid City	97	14	2	16	5
Missoula	51	8	12	20	1
Boise	37	14	7	21	0
Reno	75	20	7	27	1
Denver	30	2	8	10	1
Albuquerque	59	11	8	19	0
Washington	17	1	2	3	0
Casper	<u>90</u>	<u>10</u>	<u>16</u>	<u>26</u>	<u>12</u>
Total	456	80	62	142	20

#### The Method of Public Comment Analysis

The method used in this analysis is the Codinvolve System for analyzing public comment. This system is a method of coding and classifying written inputs with provisions for data retrieval. It was necessary to develop a code card that would handle the varied types of responses received and to summarize the issues for this public comment report.

The Codinvolve System requires several steps:

1. Date and assign a sequence number to the inputs.
2. Read and code the inputs. In the study, data were coded onto keysort cards.
3.
  - a. Hand sort quantitative data for summary by various categories.
  - b. Hand sort qualitative data (e.g., reasons given to support opinions, sentiment; likes and dislikes on the proposals; general allocation issues; management issues).
4. Prepare analysis report; attach opinions and reasons to numbers; identify trends, implications, and limitations of the data. Individuals sometimes stated and/or implied that they represented more than one organization. If for

example, a person said he represented the X Cattlemen's Association, the X State Grazing Board and the X State Woolgrowers Association, the statement would be coded as three inputs and cards for each of the three organizations were made. All tables and charts that follow in this report are based on number of inputs rather than number of individuals responding.

The system was designed to identify issues regarding public opinion about grazing fees. The questions used to guide analysis were:

1. What did the public responses say about the method for fee determination used by the Technical Committee? What reasons were given in support of the expressed views?
2. What did the public inputs say about specific management implications, such as permit value, increases in fees, adequacy of animal unit month (AUM) determinations? What reasons were given to support those views?
3. What was the balance of opinion on other related issues receiving significant public comment?
4. How did the expressed opinions concerning significant issues vary as to respondent's occupation (rancher as opposed to nonrancher, etc)?

Responses analyzed in this report can be viewed in terms of specific and general comments. Specific comments are those that speak directly to the proposal of the Technical Committee and other fee proposals. General sentiment is that related to diverse issues in less specific terms, i.e., they do not deal explicitly with specific grazing fee proposals, but call for "more grazing" or for "more Federally funded improvements," etc. Both general and specific comments have important implications for decisionmakers and are discussed in this report.

In viewing the data presented in this report, the reader must realize that, although the tables and supporting reasons relate to specific questions, a full understanding of the expressed public sentiment is possible only if viewed in terms of all the responses, including specific as well as general comments.

## PUBLIC OPINION

The goal of the Task Force public involvement process was to determine how people felt about the fees for grazing livestock on public lands. In order to report the public attitude about grazing fee related issues, several tables are provided throughout the report.

### Origin and Form of Comment

Table 2 includes the origin of the various inputs. About 84 percent of all input came from the 11 Western States. This is understandable, since the bulk of all Federal grazing land is located in that area, as well as being the locale of seven of the eight public meetings.

This table also specifies the form of input received. Almost one-half of the input was presented orally. Personal letters were the other major source of comment and, again, most of the letters came from the Western States. A total of 320 inputs were received.

Oral, written, and oral plus written responses were received at the public meetings. An input was coded oral if only an oral statement was presented. Written statements were those presented to the Task Force at the meetings; oral plus written included those oral statements accompanied by a written text of the oral presentation.

No petitions or form letters were received. The category "Other" includes inputs provided by resolutions, operating cost records, and a mailgram.

Table 3 shows the form of input received from three categories of individuals. About 78 percent of the inputs were from respondents who were using public land for grazing, or were representing livestock associations that were assumed to utilize Federal land. About 21 percent of the comments were placed under "Other." This group includes elected officials, agency personnel, and individuals who did not indicate they worked in livestock. Six livestock operators responded who did not have Federal grazing permits. Thus, the majority of the respondents could be considered to have a direct financial interest in the outcome of the Task Force report.

Table 4 shows who responded. More than half of the total number of inputs came from individuals. Formal organizations such as livestock associations formed the other major responding group.

TABLE 2

## Origin and Form of Input

Residence	Presented in Writing Through				Presented Orally Through				
	Personal		Other	Subtotal	Oral		Oral Plus Written	Subtotal	Total
	Letters	Written Reports			Statements	Written			
Arizona	18	1	1	20	1	...	...	1	21
California	3	...	...	3	...	...	...	...	3
Colorado	9	...	1	10	1	9	9	10	20
Idaho	18	...	...	18	15	9	9	24	42
Montana	13	2	...	15	8	15	15	23	38
Nevada	6	...	...	6	9	11	11	20	26
New Mexico	15	...	1	16	13	7	7	20	36
North Dakota	1	...	...	1	...	3	3	3	4
Oregon	4	...	...	4	2	4	4	6	10
South Dakota	8	1	...	9	13	3	3	16	25
Utah	2	...	...	2	...	...	...	...	2
Wyoming	21	7	2	30	12	20	20	32	62
Other	25	4	...	29	2	...	...	2	31
Total	143	15	5	163	76	81	81	157	320

TABLE 3  
Inputs by Occupational Interest

Respondent	Personal Letter	Oral Statement	Written Report	Oral/ Written	Other	Total
Rancher permittee	91	67	13	73	4	248
Rancher nonpermittee	6	...	...	...	...	6
Other	<u>46</u>	<u>9</u>	<u>2</u>	<u>8</u>	<u>1</u>	<u>66</u>
Total	143	76	15	81	5	320

TABLE 4  
Who Responded

Respondent	Number of Inputs	Percent
Individual	163	51
Household	5	2
Elected official	7	2
Agency	4	1
Formal organization	<u>141</u>	<u>44</u>
Total	320	100

What Was the Opinion Concerning the Technical Committee Proposal and Other Proposals?

Table 5 summarizes inputs received concerning fee calculation alternatives. If a response was not specifically about one of the fee determination systems, but was generally against a fee increase, the input was coded elsewhere.

The reasons given in favor of the Technical Committee's proposal (Pro) or factors to consider against the Technical Committee's proposal (Con) are shown below:

<u>Pro</u>	<u>No. of times mentioned</u>
Fair to rancher and public	3
Beef price index from prices in 11 Western States only	3
Prices paid index should be further refined	4
Lease rate index must be overhauled	3
Forage worth no more than you can afford to pay	1
Improve data for private land lease rates	2
Consider yearling vs. cow and calf fee	2
Permit value should be included	3
Convenience of grazing	1
Rate of gain	1
Conception rates	1
Cattle losses	3
Cost of improvements	3
Permittee input on factors and base years	1
Predator loss	1
Cost of management plans	1
Private land values not comparable to public land	1
Improvements become permittee property or deduct from fee	1
Add private land lease rate	1
It reflects market condition to cost of production	1
Use a rolling 3-year average	1
Include 13 nonfee costs from 1966 study	2
Indexes in formula should be divided by 200 instead of 100	1
Livestock industry must agree with items in prices paid index and weighting values	4
Private lease rates on AUM basis must be reflected	4
Use statistically sound data from each state	4
If above data not available, no price adjustment that year	4
Invite industry when selecting base year for index	4
Consider agency programs that increase operating cost	4

TABLE 5

## Inputs Received Concerning Fee Determination Alternatives

	Personal Letter	Oral Statement	Written Report	Oral/ Written	Other	Total
Technical Committee						
Pro	9	...	...	12	...	21
Con	9	8	...	18	...	35
Santini Formula						
Pro	...	1	...	...	...	1
Con	...	...	...	1	...	1
American National Cattlemen's Association						
Pro	...	...	...	1	1	2
Con	...	...	...	...	...	...
American Farm Bureau						
Pro	1	...	...	1	...	2
Con	...	...	...	...	...	...
Index of Private Lease						
Pro	...	...	...	...	...	...
Con	4	2	...	11	...	17
Competitive Bid						
Pro	9	...	...	...	...	9
Con	8	3	...	10	...	21
1969 Fee System						
Pro	2	2	...	5	...	9
Con	2	4	...	6	...	12
Other No Pro/Con	11	3	1	10	1	26

## Con

Cost comparison between public land and private land not adequate	4
Private land higher but have complete control	2
Add private land lease index	1
Public land and private land not comparable	1
Public land inferior to private land from agricultural standpoint	1
Private land lease rates should not be included	1
Obtain better data on private land lease rates	1
Need additional information and actual cost figures	4
Too vague	3
Not adequate study	3
Does not meet requirement of law	1
Needs better index	1
Value of forage not considered	1
With single fee, Government is accepting maximum variation on total cost differentials	1
Cow on grass is more productive than cow on sagebrush	1
Set up similar geological or market areas to base fees on	1
No consideration of forage consumed in AUM	5
Contains unacceptable CI formula	1
Formula based on beef price - production cost not responsive to inflation	1
Permit value not considered	1
Include real and property taxes	1
Doubt formula is fair to permittees	2
Report indicates improvements owned by Government when provided by permittees	1
Include improvement costs	1
Include loss of animal costs	1
Include operation costs	2
Include herd conception rates	1
Concerned over factor "L" and "P" index	1
Want to know weighting of index components	1
Formula not a cost of production index	1
Will put family operations out of business	1
Potential cost-push factor as fee increases on public land will push up private fee	1

## What Was the Opinion Concerning Competitive Bidding?

Of the various possible methods or formulas for establishing fees, only competitive bidding and continuation of the present system (1969 formula) received very many positive comments.

Competitive bidding was both proposed (nine inputs) and opposed (21 inputs). Those favoring competitive bidding generally did not graze Federal land, and apparently either felt bidding was a way

they could get to utilize public land or a way to get fees raised to a level they thought was commensurate with the value. The pros and cons are summarized as follows:

<u>Pro</u>	<u>No. of times mentioned</u>
Free enterprise and supply and demand as basis for selling products of public land	1
Put up for bid with current permittee having opportunity to match highest bid on 5-year contract	1
Let rancher decide what he can pay	1
If an individual attempts to purchase lands in a grazing district, he is threatened with loss of the rest of his grazing units on public land since large ranches control grazing boards	1
<u>Con</u>	
Large corporations or wealthy individuals would get bids	1
Not original intent of Taylor Grazing Act	1
Not objective of goals of Forest Service and Bureau of Land Management	1
A disaster if continuity of range management is a goal of public land	1
Nonleasors envious of Federal leasors	1
Counterproductive to livestock industry	1
Unfeasible	1
Would eliminate stability and flexibility necessary to livestock operation	1

What Was the Opinion Concerning the 1969 Fee Determination Formula?

The limited number of comments regarding the present system, put into effect in 1969, was about evenly divided (table 5) as to whether they favored or opposed continuation. Their reasons are shown below:

<u>Pro</u>	<u>No. of times mentioned</u>
Current fair market value fee is good reflection of current value	1
Do not duplicate 1966 study, but add input	1
Revise formula to better reflect what livestock operators pay for private forage	1

## Con

Doesn't meet need of small rancher	1
No consideration to market value of forage	1
Comparability of public land and private land is inadequate	1
Does not consider cost of operation	1
Not current with times	1
High overhead and low beef prices preventing profit	1
Based on data not representative of issue	1
Against fair market value of \$1.23 and later adding private land lease costs into schedule	1

## What Was the Opinion Concerning Other Fee Determination Methods?

In addition to formulas outlined by the Technical Committee Report which was published in the Federal Register, the public proposed several alternative formulas. These are: (1) grazing fee = ratio of number of AUMs of private leases in ratio to number of AUMs on Federal leases; and (2) fair market value = comparable forage on private land less public land grazing cost as compared to private land. They also commented on the need for additional study and voiced opposition to other methods of fee computation. These comments include:

	<u>No. of times mentioned</u>
Support modified Santini formula	1
Abandon the overall formula	1
Use proposed amendment 1392 to S.507	1
Object to public land council, Santini, and Hansen formulas which have variable pricing philosophy	1
Opposed to formula using private land lease rate as only variable	1
Insure that "P" reflects nonfee production	1
Insure respondents used in operating cost studies are from actual leasing operations	1
Private lease rates are not comparable with public land since: (1) private is well fenced and maintained by owner; (2) cattle are in one area; and (3) pasture furnishes complete food	1
Livestock operators should have input on determining the base years used for determining the cost index	1
Index should not be limited to seven cost items suggested by Technical Committee	1
Develop separate costs for logical regions	2
Fee increases should be tied to livestock price increases	1
Fee should be based on formula reflecting increases and decreases in prices	3

Grazing fee should be tied to fair market value at time cattle sold 1  
 Establish fee using same method as appraisal of real estate 4

What Was the Opinion on Factors to Be Considered in Setting Fees?

The respondents gave a great deal of information on costs that should be considered when computing fees. One recurring theme was that the public lands are of poorer quality than private grazing lands because they were left over after homesteaders had settled the choice lands. They indicated that this poor quality land required more acres to support an animal and increased their costs significantly through lower weight gains and larger areas to have to ride and fence.

The fee cost factors that respondents felt should be considered were as follows:

	<u>No. of times mentioned</u>
Predator loss which is higher on Federal land*	4
Purchase cost of permit	6
Price of livestock received by producer	1
Range structures or improvements*	3
Management system costs*	3
Fencing*	6
Environmental requirements	1
Travel and wage cost from increased management	2
Cost incurred from other users such as recreationists	5
Quality of forage	6
Accessibility*	1
Greater flexibility on private land than on public land	1
No big permit value on investment in private land	2
Water development*	8
Water haul*	2
Maintenance costs*	1
Salt*	1
Competition from wild horses	4
Briskets disease	4
Steep terrain increases labor costs*	1
Vehicle*	1
Cost of riders*	1
Extraordinary circumstances, e.g., drought	1
Transporting horses*	1
Energy costs	1
Current livestock prices	3

Unenforced policies in earlier years now being enforced	1
Cattle rustling*	1
More bulls required on large allotment	1

\*Items included in the 1966 survey and used to establish the fair market value fee of \$1.23.

When comparing public land grazing fee to private land fee, respondents indicated the following must be considered:

Most private land has water	3
More improvements such as fences are on private land	10
Higher cost of doing business on public land	5
Permit value	1
Other land uses disturb livestock	1
Convenience of grazing better on private land	1
Cattle gain more on private land	2
Higher conception rate on private land	1
Only pay for AUMs you get on private land	1
Predator control limited on public land	4
Greater loss from larkspur poisoning on Federal land	3
Private lease guarantees to replace losses	2
Pasture furnishes complete food	1
Cattle maintained by landowner	2
Cattle in one area	1
Private land better than Federal	1
Less wildlife on private to eat forage and salt	1
Use preceding year rather than rolling average	4
Base fee on rolling 3- to 5-year average, taking good and bad	7
A base of 1 year not logical	1
Eliminate calves from beef prices index as they are too volatile	4
During winter, Forest Service permits are reasonable while BLM's are not because of lack of security and control	1
Expand alternatives to collection and analysis of private land lease data	4
Incorporate cost factors in final formula	6
Government trying to put too much emphasis on a few private lease rates to justify a large increase in public land grazing fees	1

#### What Was the Opinion Concerning A Fee Increase?

Though not a question posed by the Task Force, 44 percent of the comments discussed the amount of grazing fees. Table 6 indicates that the response was as might be expected. Ranchers on Federal land felt the present fees were high enough or too high, while ranchers utilizing only private land felt Federal fees were too low. The group "Other," which does not include ranchers, generally favored higher fees.

TABLE 6

## Opinion Concerning a Fee Increase by Type of Respondent

Respondent	Number of Inputs	Percent
Livestock rancher permittee		
Pro	7	5
Con	99	70
Livestock rancher nonpermittee		
Pro	5	4
Con	0	0
Other		
Pro	22	15
Con	<u>9</u>	<u>6</u>
Total		
Pro	34	24
Con	108	76

Reasons for raising the fee (Pro) and against a fee increase or reducing it below current levels (Con) are shown below:

<u>Pro</u>	<u>No. of times mentioned</u>
Token fees are a rip-off	3
Ranches with cheap public land leases can make profit	3
Fair market value only justifiable standard for fees	3
Subsidized (low) fees aid some poor ranchers, but benefit large scale operations most	3
Low public land fees discriminate against private ranchers	1
Present fees do not bring in fair return	2
Limit fee increase to not over 15 percent	4
Set fee in accord with private land rentals - private landowners even have to maintain their own fences	9
Present rates vary from one-half to one-fifth of the rates of private lease	1
Low fees unfair to free enterprise	1
Must pay taxes per acre not per AUM	1
Presently a Federal subsidy of cheap grazing	1
Present low fee results in excessive profit	1
Have not reflected total value in the past	1
Present fee a pittance of actual value	1
Raise to three-fourths of the comparable quality surrounding private lands	1

Bring in more revenue to improve administration	1
Low when compared to private land	2
To keep up with inflationary factors only	1
Triple fee at least	1
Users should pay top dollar for privilege	1
Consider permit value as factor in establishing fees	6
Amount paid should be based on productivity	1

### Con

Cattle ranching already marginal business	1
Low fees indirectly support ranchers' incomes so they can pay taxes	1
Relatively cheap grass is reason for Americans enjoying cheap beef	1
Only ranchers care about well-being of range	1
If fees are raised, good grass will be wasted	1
Livestock industry paying fee for long time, while other public lands are used free	2
High enough to compensate Government	1
Rancher caught between selling price of produce and steadily increasing costs	4
Public land costs equitable to private land pasture now	1
Taxes on permits which are another revenue besides fee	1
Fee increase detrimental to community as biggest portion of fees leaves county	2
Why are grassland fees higher than National Forests'	1
Should be in line with ability to pay	1
Base fee formula on price of cattle and cost of production (fees in part fluctuated)	2
Will result in new, affluent, inexperienced ranching	1
Fee increases accelerate the trend of permit transfers	1
Small ranchers being forced out of business	8
Fences - water developments - range improvements - across the board fee adjustments inequitable	3
Use last 5 years as average fair cost of each AUM	1
Additional fees result in no grazing use at all	1
Fees should be set low enough to make least desirable allotments economical	1
Because no range improvements	1
Price on grazing land higher than cattle prices	1
Need better price structure to keep balance and stability in community	1
Keep fees within reason with what lands will produce and cost of production will be major factor in setting fees	1
\$1.00 to \$1.25 reasonable	1
Losing money now	1
Charge no more than \$1.50 AUM	1
Adjust to fit livestock prices	1

Reduce fee to help stabilize cattle industry	1
Rancher forced to pay fee since no private land is available for lease	1
Stabilize fee until cattle prices catch up with production costs	1
Lease as is; small ranchers have a difficult time now due to low livestock prices	1
Fee should be lowered	1
Costs as much or more to graze on public land compared to private land	1
Cattle price same as 25 years ago, while grazing fee is 10 times higher	1
Additional 2-year fee moratorium has depressed cattle prices and increased production costs, forcing cattlemen into bankruptcy	1

### What Are the Resource User Conflicts?

Any time different uses are made of the same piece of land, the possibility of conflicts exists. Livestock operators report additional costs incurred because of other uses such as wildlife and recreation, and these uses are, in turn, affected by grazing.

Table 7 displays the relationship of wildlife to grazing. Numerous operators stated that fees should be reduced because of the impact of wildlife on available forage, salt, etc.

TABLE 7

### Opinion of Relationship of Wildlife to Grazing

Respondent	Grazing Benefits Wildlife	Grazing Hurts Wildlife	Wildlife Hurts Grazing	Wildlife Benefits Grazing	Total
Livestock permittee	13	...	23	...	36
Other	<u>1</u>	<u>10</u>	<u>3</u>	<u>...</u>	<u>14</u>
Total	14	10	26	...	50

The reasons cited by both livestock operators and wildlife interests are as follows:

### Comments By Livestock Operators and/or Interests

	<u>No. of times mentioned</u>
Don't see why wildlife organizations should have input into grazing issues	1
Wildlife consumes salt, supplemental feed, hauled water	1
Grazing provides salt to wildlife	5
Feed and water are provided for wildlife; wildlife can be enjoyed by hunters and recreationists	1
Planned grazing restores vegetative cover and improves wildlife habitat	1
Stock water benefits wildlife	1
Wildlife increasing rapidly and eating forage	1
Possibility of antelope spreading disease to livestock	1
Reduce fee according to number of wildlife	1

### Comments by Wildlife Interests

Permittees "kill game illegally"	1
Wildlife, including predators, part of natural cycle	1
Livestock overgrazing is threat to headwater trout habitats	1
Stop putting emphasis on grazing at expense of wildlife	1
Wildlife cannot exist where livestock have eaten or trampled vegetation	4
Wildlife should be considered when deciding number of AUMs to allow	1
Allotments should be given only when livestock use isn't detrimental to wildlife species	1
Eliminate fences or restrict fenced areas in wildlife management areas - give wildlife first priority	1
Competition for range	4
Modify fences so antelope can pass	1

Table 8 shows the range of opinion regarding apparent conflicts between grazing use and recreationists. The reasons given are listed:

TABLE 8

## Opinion of Relationship of Recreation Users to Grazing

Respondent	Grazing Benefits Recreation	Grazing Hurts Recreation	Recreation Hurts Grazing	Recreation Benefits Grazing	Total
Livestock permittee	4	...	33	....	37
Other	<u>1</u>	<u>3</u>	<u>2</u>	<u>....</u>	<u>6</u>
Total	5	3	35	0	43

Recreation User Comments

	<u>No. of times mentioned</u>
Salt placed in camping areas attracts livestock, making camps unusable to public	1
Public land should be for majority - reduce grazing	1
If lessee closes a road on private land giving access to public land, grazing permit should be cancelled	1
Protect wilderness and wild river areas	1

Livestock Operator Comments

Hunters shoot livestock	1
Recreation user costs: stuck vehicles, fence damage, garbage, damage creek crossings, damage roads, har- assment of livestock, property destruction	1
Need restrictions and controls on recreationists - possibly penalties on hunters with 4-wheel drives, snowmobiles	1
Motorcycles tearing up pastures, leaving gates open	1
Drastic increase in people on public land. Rancher, if not priced off, put off because of public user	1
Grazing lands benefit recreationist	1
Wildlife can be enjoyed by hunters and recreationists	1
No compensation to private landowner for attracted recreationists	1
Multiple use by nonfee-paying public with maintenance being lessee responsibility is unfair	1
Recreation users should be charged for use of public land	1
Protect wilderness and wild river areas	1

## What Was the Opinion Concerning Permit Values?

While the Task Force did not solicit comments on permit value, the issue was addressed by many of the respondents. Table 9 indicates that the majority of livestock operators are of the opinion that the value they had paid for permits should be recognized as a cost of doing business. The group "Other" generally favored not recognizing permit value. The reasons are shown below:

TABLE 9

### Opinion Concerning Inclusion of Permit Value

Respondent	Number of Inputs	Percent
Livestock rancher permittee		
Pro	58	70
Con	9	11
Other		
Pro	5	7
Con	<u>10</u>	<u>12</u>
Total		
Pro	63	77
Con	19	23

<u>Pro</u>	<u>No. of times mentioned</u>
Grazing fee must include permit value capitalization	2
Lending institutions and Internal Revenue Service recognize permit value	12
Provides security of investment	1
Recognize as cost factor in setting fee	21
Reflects accumulated investment of capital and management	1
Amount paid for permit is based on productivity	1
If guaranteed priority, Federal leases could be sold	1
Rancher leasing only grazing rights and amount of grazing may vary greatly year to year	1
Permits have market value	1
Assign a basic value of cow to maintain permit value	1
Ranchers have invested \$343 million in purchasing permits	1
Compensate rancher for reduction in AUM as good money paid for permit	1
Most permits have been purchased and have a value	4
An AUM on moderate terrain with water is worth more than AUM on steep, rough terrain several miles from water	1

Internal Revenue Service, commercial banks, or Farmers	8
Home Administration consider permit value in taxes and loans	
Cost of permit included in ranch sale price	1
Permit allowed to accrue chattel value	1
Permit legitimate cost of production	1
Grazing fee must include permit capitalization	3
Logical and realistic	1

### Con

Congress declared policy of receiving fair market value	1
Regulations which gave preference to established local residents using public land prior to establishment of FS no longer applicable	1
Low grazing fees given permittee something special and of value which can be sold	1
The value or preference really belongs to people of the United States	3
The feeling of purchasing a vested right makes resistance to needed reductions in grazing use	1
Any attempt to raise grazing fees near commercial level makes permit value less	1
Counties get far less than they should from the 25-percent fund because fees are less than commercial rate	1
Local residents pay a subsidy (in property tax) to nonresident grazers because much of the grazing value is paid to former permit holder	1
Permit capitalization represents a major cost of grazing public land	2
Represents a monopoly - unfair to majority of ranchers	1
Most users are saddled with this expense	2
Essential ground for fee establishment	1
Rancher leasing only grazing rights and amount of grazing may vary greatly each year	1
Taxes on permit which is another revenue besides fees	1
Ranches bought on credit basis including grazing privilege	1
Since Government does not guarantee other investors, it should eliminate permit values	1
Is a privilege and not a vested right	1
Fee increases accelerate the trend of permit transfers	1
Permit value added to purchase cost of ranch	1
Increasing fee amount increases permit value	1

### What Was the Opinion on a Single Fee System?

The present fee system calls for uniform fees per AUM throughout the Western States. This was questioned by 11 percent of the respondents who felt fees should vary, depending on factors such as

acres per AUM, and amount of improvements needed or in place. Table 10 shows how individuals responded.

TABLE 10

Opinion on Variable Fee System

Respondent	Number of Inputs	Percent
Livestock rancher permittee		
Pro	29	72
Con	4	10
Livestock rancher nonpermittee		
Pro	6	15
Con	0	0
Other		
Pro	0	0
Con	<u>1</u>	<u>3</u>
Total		
Pro	35	87
Con	5	13

The reasons given below for changing the present system of uniform fees are shown as Pro and those supporting the single fee as Con.

<u>Pro</u>	<u>No. of times mentioned</u>
A well-watered range is worth more than dry	1
Should permittee on poor land pay same fee as one on good land - No	1
Would rather work out fair fee than have to defend poor existing structure	1
With single fee, Government is accepting maximum variation in total cost differentials	1
Pay same fee as permittee who makes no improvements	1
Public land permit can be revoked at any time (for not complying with State and Federal regulations)	1
Have different fee for different seasons of year	1
For localized areas	1
Accessibility - if rangeland is ridged or rough, stock do not use it as much	1
Leniency on grazing fees during drought season - must truck in water	1

Reflect permittee's ability to pay	1
Dependability for producing forage	1
Set up geographic or market areas to base fee on	1
Utah State University Study in 1971 said variable grazing fee necessary	1
Single average fee cannot meet Congress' criteria	1
Public Land Council, Santini formula, and Hansen formula have variable pricing philosophy	1
Great difference in forage and terrain	1
Local people set fees rather than Washington office of agencies	1
Cow walking 2 miles per day to obtain forage more productive than one walking 4 miles per day	1
Depending on market price and quality of range	1
Prime AUM has feed within 2 miles of water, not over 300 feet elevation and produced on 7 acres or less	1
Consider land productivity when setting fee	1

#### Con

Winter range with low productivity may have greater value to rancher than summer	1
Equal fee for all Federal land	1
Practically impossible to charge different fees	1

#### What Was The Opinion on Animal Unit Month Determination?

Table 11 summarizes the comments made concerning calculation of grazing fee AUMs. This was the only issue where all of the respondents indicated they favored a change in present policy of charging the same fee for all animals over 6 months of age rather than animal weight or forage consumed.

TABLE 11

## Opinion on Animal Unit Month Determination

Respondent	Number of Inputs
Livestock rancher permittee	
Pro	23
Con	...
Livestock rancher nonpermittee	
Pro	...
Con	...
Other	
Pro	3
Con	...
Total	
Pro	26
Con	...

<u>Pro</u>	<u>No. of times mentioned</u>
Different fee for yearling or way of converting from cow-calf basis	1
Six months' age regulation presents impossible task; allow as noncounter if under weaning age during season	1
Why same fee for 350 pound steer as for a cow-calf?	2
Base fee on pounds of forage consumed	1
Different consumption yearlings/cows	1
Difference in forage consumption between types and ages	1
Last 5 years as average fair cost of each AUM (1973 only year cattle market showed gain)	1
Price AUMs sold indicates economic value to livestock operation, value of an AUM of forage on public land	1

Con

No comments

## SUMMARY

Public participation is a fundamental part of the two Departments' management processes and, as such, was actively sought by the Task Force on grazing fees. Public comment was invited and encouraged directly through eight public meetings or solicitation of written responses or both.

Many of the individuals and organizations, including those who have grazed livestock on Federal rangelands for many years, appear to have insufficient information or knowledge of the present system used to determine grazing fees. For example, many of the responses recommended that various operating costs (loss of animals, veterinary fees, moving livestock, fence maintenance, water development, etc.) should be considered in establishing fees on public lands. Most of these items are included among the 13 cost factors between private and public lands developed by the 1966 study and now used in the present fee formula. The responses did provide a good discussion of the concerns shared by various segments of the interested public.

Public interest varied among the Western States; however, some livestock and some environmental interest were represented in each State. There also were comments by representatives of other interest groups, financial organizations, academic institutions, and State and local governments. This analysis and the tabulations are not intended to be complete but represent responses in highlight form.

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APPENDIX C

Part 1

STATISTICAL REPORTING SERVICE, USDA, DATA COMPILED IN  
1977 IN RESPONSE TO SPECIAL REQUEST AND FINANCIAL  
SUPPORT FROM FOREST SERVICE, USDA, AND  
BUREAU OF LAND MANAGEMENT, USDI



## PREFACE

The report of the Technical Committee, Review of Public Land Grazing Fees, dated November 1976, required data not previously available. These special needs required the addition of items to the existing "standard" surveys of the Statistical Reporting Service as well as special tabulation and computation of certain data series.

The following items were required:

1. Index of cost of production items for an October to November year related to western cattle production costs.
2. Index of livestock prices received for an October to November year for Western States.
3. Improved measurement of private grazing land lease rates for development of a rate of change index for the value of grazing use on western rangelands.

Special note: It is difficult to attach short titles to any data sets which adequately describe the data series and provides understanding of what the series or index measures as well as how they were constructed. Data series and indexes can also be titled in either the terms appropriate to indicate their sources or the terms appropriate to indicate their uses. Throughout this section such problems will be apparent, but the intent is to use names or titles commonly occurring in the debate over grazing fees in the last 10 years.

APPENDIX C  
Part 1(a)

PRICES PAID INDEX AS DEVELOPED BY THE  
STATISTICAL REPORTING SERVICE

Introduction. The Technical Committee, in its report Review of Public Land Grazing Fees dated November 1976, proposed a grazing fee formula which included a Prices Paid Index (PPI) as part of the formula. The PPI recommended was to be a new index developed from selected subindexes of the official United States Department of Agriculture Statistical Reporting Service PPI with weights based on the Economic Research Service (ERS) Cost of Production Survey (COPS). It would be an annual index on a November through October year with a base period of 1964 to 1968=100. The November through October year was selected for the purpose of using the data for determination of grazing fees. Both Bureau of Land Management and Forest Service start the new grazing fee year on March 1. A period of 4 months is needed to assess the data, compute the fee, compute billings, transmit the billings to permittees and collect the fees in advance of actual grazing use. It is desirable that data being used to determine fees be as recent as possible. Therefore, a November through October year has been selected. The selection of November through October, however, does require that a special computation procedure be used. The object of the PPI was to reflect the short-term changes in the cost of using public grazing lands as a feed source for sheep and cattle production in the Western United States.

Component Selection. The Economic Research Service utilized COPS data in a budget data. Two budgets were generated: one reflects the cost per cow for new operators entering into a cow-calf operation and the other reflects costs for established operators. The preliminary unpublished budget data generated by ERS for the Western Region is shown in table 1.

Since the Technical Committee proposal specified the basic subindexes and source of weights, the first step in developing weights for the PPI was to pair the components of the ERS-COPS budget data with the selected subindexes. Appropriate pairing was essential since the subindexes were used to represent selected components from ERS budget data proportionately. The pairing (table 2) revealed that three components - machinery and equipment repairs, machinery, and equipment - matched with two or more existing indexes requiring an additional allocation. The index of interest on farm real estate was used as a proxy for interest on operating capital. Interest on land investment was excluded because in the ERS budget, interest was based on the current market value of all land at the current rates of interest. This

results in a very unrealistic weight in the distribution of current operating costs, in addition to the fact that land is a nondepreciable item.

Additional Allocation of Selected Budget Components. The COPS data were not summarized and expanded to provide detailed breakdown of cost, but aggregated into budget data (table 3) which precludes its use for the additional allocation of the three selected budget components.

TABLE 1

Cattle Cost of Production Budget by Cost Per Cow for Cow-Calf Operations<sup>a</sup>  
 Western Region  
 For New and Established Operators

Item	Total	Costs per Cow	
		Cash	Noncash
Private Pasture and Range	\$5.85	\$1.80	\$4.05
Public Grazing	4.17	4.17	
Hay	82.95	35.76	47.19
Silage	--		
Grain and Concentrates	--		
Protein Supplements	2.99	2.99	
Salt and Minerals	1.19	1.19	
Total, Feed	97.15	45.91	51.24
Veterinary and Medicine	4.13	4.13 <sup>a</sup>	
Livestock Hauling	1.81	1.81 <sup>a</sup>	
Marketing	1.95	1.95 <sup>a</sup>	
Fuel, Lube, and Electricity	6.23	6.23 <sup>a</sup>	
Machinery and Equipment Repairs	4.21	4.21 <sup>a</sup>	
Hired Labor	6.23	6.23 <sup>a</sup>	
Total, Other Variable Costs	24.56	24.56	
General Farm Overhead	7.13	7.13	
Interest on Operating Capital	4.92	2.55 <sup>a</sup>	2.37
Total Variable Costs	133.76	80.15	53.61
Machinery			
Entering <sup>b</sup>	9.25	.63	8.62
Current <sup>c</sup>	4.94 <sup>a</sup>	.63	4.31
Equipment			
Entering	21.50	2.31	19.19
Current	11.91 <sup>a</sup>	2.31	9.60
Livestock	24.77		24.77
Total Ownership Costs			
Entering	55.52	2.94	52.58
Current	41.62	2.94	38.68
Operator and Family Labor	21.03		21.03
Management			
Total Nonland Costs			
Entering	225.03	83.09	141.94
Current	211.13	83.09	128.04
Land Taxes	16.57	16.57	
Interest on Land Investments			
Entering	126.69		126.69
Current	40.29		40.29
Total Costs			
Entering	369.29	99.66	268.63
Current	267.99	99.66	168.33

Source: Preliminary unpublished budget data generated by the Economic Research Service, USDA.

<sup>a</sup>Components selected for weighting purposes.

<sup>b</sup>New operator.

<sup>c</sup>Established operator.

TABLE 2

SRS Prices Paid Indexes Used to Represent Selected Components From the  
Cattle Cost of Production Budget

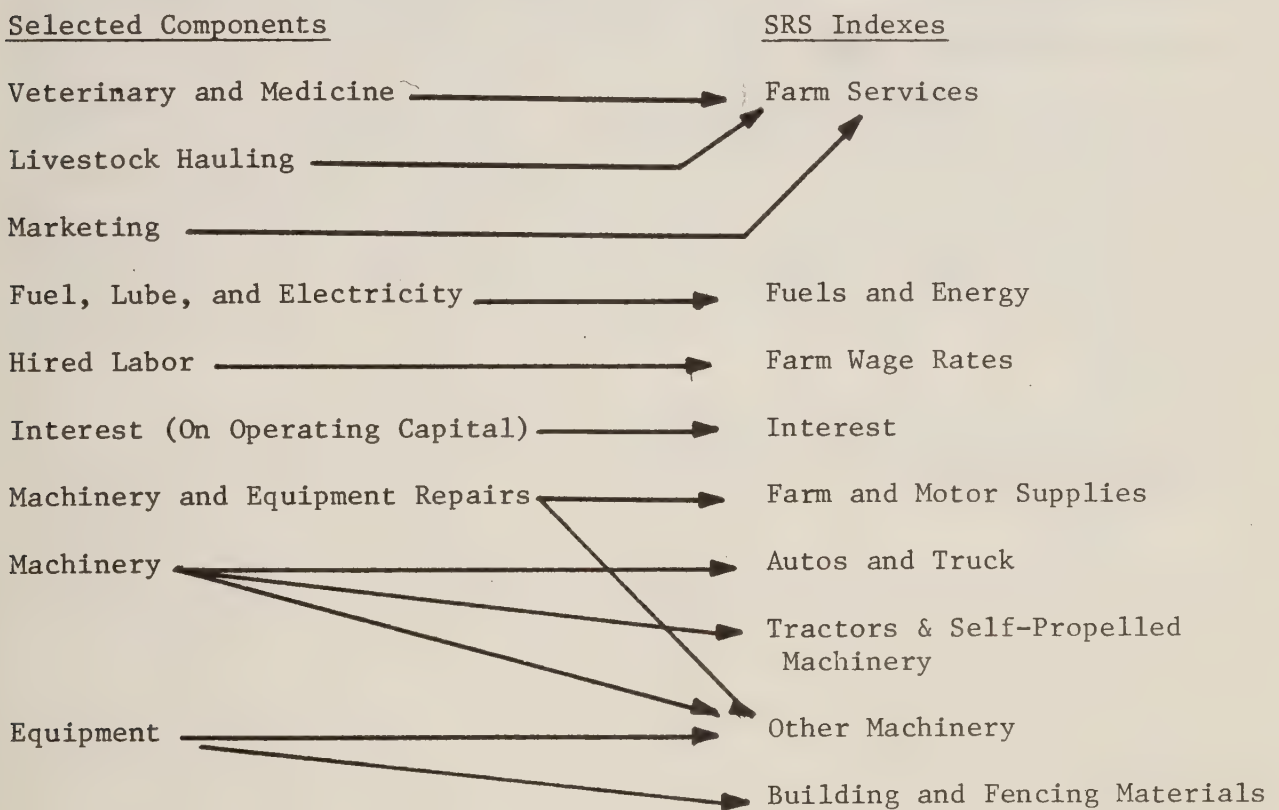


TABLE 3

Distribution of Selected Components  
From the Cattle Cost of Production Budget

<u>Selected Components</u>	<u>Cost per Cow</u>	<u>Percent of Total</u>
Fuel, Lube, Electricity	6.23	14.2
Machinery and Equipment Repairs	4.21	9.6
Hired Labor	6.23	14.2
Machinery	4.94	11.2
Equipment	11.91	27.1
Interest	2.55	5.8
Veterinary and Medicine, Livestock Hauling, Marketing	<u>7.89</u>	<u>17.9</u>
Total	43.96	100.0

Without a breakout comparable to the indexes, a pragmatic allocation of the total for the three components was made based upon data from the SRS Farm Production Expenditure Surveys (table 4).

Weight Assignment. The percent distribution of the allocated budget data to the nine subindexes was used for assigning weights (table 5). The weights assigned were rounded to one-half of 1 percent. The weights range from 4.5 to 18.0 percent. This is a good distribution of weights in that no one index will unduly influence the weighted PPI.

Comparison of PPI with Other Indexes. The computed PPI from 1964 to 1976 on the 1964 to 1968=100 base compares favorably in magnitude and trend with the published SRS series on the 1967=100 base (table 6). Note that the PPI and the SRS series are on a different annual basis as well as base periods. The year-to-year changes also compare favorably in movement and direction. Some of the lags and surges occurring in the year-to-year change result from comparing a November to October year with a January to December year when several of the indexes in the PPI with the larger weights are updated on an annual calendar year basis. The year-to-year change in PPI compared with the other SRS series is shown in table 7.

TABLE 4

Allocation of Machinery and Equipment Repairs, Machinery  
and Equipment Components to SRS Indexes

<u>SRS Indexes</u>	<u>Percent<sup>a</sup> Allocation</u>	<u>Allocated Total</u>
Farm and Motor Supplies	25	5.27
Autos and Trucks	10	2.10
Tractors and Self-Propelled Machinery	10	2.10
Other Machinery	25	5.27
Building and Fencing Materials	30	6.32
Total	100	21.06

TABLE 5

Weights Assigned to SRS Indexes for Computing Prices Paid Index

<u>SRS Indexes</u>	<u>Allocated Cost/Cow</u>	<u>Percent of Total</u>	<u>Weight Assigned</u>
Fuels and Energy	6.23	14.2	1.5
Farm and Motor Supplies	5.27	12.0	12.0
Autos and Trucks	2.10	4.8	4.5
Tractors & Self-Propelled Machinery	2.10	4.8	4.5
Other Machinery	5.27	12.0	12.0
Building & Fencing Materials	6.32	14.4	14.5
Interest	2.55	5.8	6.0
Farm Wage Rates	6.23	14.2	4.0
Farm Services	<u>7.89</u>	<u>17.9</u>	<u>18.0</u>
Total	43.96	100.0	100.0

TABLE 6

Prices Paid Index Compared with Prices Paid by Farmers for  
Commodities and Services, Interest, Taxes and Wage  
Rates, Production Items, and Prices Paid by  
Farmers for Production Items, Interest,  
Taxes and Wage Rates Indexes

Data Year	PPI <sup>a</sup> (1967-68=100)	PPITW <sup>b</sup> (1967=100)	Production <sup>b</sup> Items (1967=100)	PITW <sup>b</sup> (1967=100)
1964	95	92	94	90
1965	97	94	96	94
1966	99	99	100	99
1967	103	100	100	100
1968	107	103	100	102
1969	113	108	104	107
1970	118	112	108	112
1971	124	118	113	117
1972	130	125	121	125
1973	140	144	146	149
1974	168	164	166	170
1975	198	180	182	187
1976	215	192	193	199

Note: Farm Services Index linked into the series starting 1972.

<sup>a</sup>November to October

<sup>b</sup>January to December

PPI = Prices Paid Index (specific for grazing fee use)

PPITW = Prices Paid by Farmers for Commodities & Services, Interest,  
Taxes, & Wage Rates

Production Items = Prices Paid by Farmers for Production Items

PITW = Prices Paid by Farmers for Production Items, Interest, Taxes,  
& Wage Rates

TABLE 7

Year-to-Year Change in Prices Paid Index Compared with Prices  
Paid by Farmers for Commodities and Services, Interest,  
Taxes, and Wage Rates, Production Items, and Prices  
Paid by Farmers for Production Items, Interest,  
Taxes and Wage Rates

<u>Year</u>	<u>PPI<sup>a</sup></u> <u>1964-68</u>	<u>PPITW<sup>b</sup></u> <u>1967=100</u>	<u>Production<sup>b</sup></u> <u>Items</u> <u>1967=100</u>	<u>PITW<sup>b</sup></u> <u>1967=100</u>
1965	+ 2	+ 2	+ 4	+ 4
1966	+ 2	+ 5	+ 4	+ 5
1967	+ 4	+ 1	0	+ 1
1968	+ 4	+ 3	0	+ 2
1969	+ 6	+ 5	+ 4	+ 5
1970	+ 5	+ 4	+ 4	+ 5
1971	+ 6	+ 6	+ 5	+ 5
1972	+ 6	+ 7	+ 8	+ 8
1973	+10	+19	+25	+24
1974	+28	+20	+20	+21
1975	+30	+16	+16	+17
1976	+17	+12	+11	+12

<sup>a</sup>November to October

<sup>b</sup>January to December

PPI = Prices Paid Index (specific for grazing fee use)

PPITW = Prices Paid by Farmers for Commodities & Services, Interest, Taxes,  
& Wage Rates

Production Items = Prices Paid by Farmers for Production Items

PITW = Prices Paid by Farmers for Production Items, Interest, Taxes  
& Wage Rates

Future Action. If a PPI is to be used annually to establish grazing fees, then the set of weights listed in table 5 for computing PPI (listed in table 6) is suitable to meet the objectives outlined by the Technical Committee. It should be noted that the source of data for weights is preliminary and, therefore, subject to revision when final data become available later in the year (1977).

If a PPI is used as outlined, SRS has indicated they would recommend the index be published annually in the November publication of Agricultural Prices. If and when SRS publishes this index, which has been developed solely for use in grazing fee computations, then SRS proposes to title the index the Grazing Prices Paid Index (GPPI) in order to distinguish it from other Prices Paid Indexes.

APENDIX C  
Part (1b)

PRICES RECEIVED FOR LIVESTOCK  
(Developed by Statistical Reporting Service)

In order to have the most recent data on prices received to use in the grazing fee computations, a November through October year has been selected. The selection of this year does require special tabulation but basic price data are those normally published by SRS in the Agricultural Prices series.

The data are the monthly prices by State, weighted into an 11 Western State average. The weighting is based on the volume (pounds liveweight) of marketings (tables 8 and 9).

TABLE 8

Weighted Average Prices Received by Farmers in 11 Western States for Beef Cattle, Calves, and Lambs; 1964-1977

Year	Beef	Calves	Lambs
	Cattle dol/cwt	dol/cwt	dol/cwt
1964 <sup>b</sup>	19.20	22.30	19.90
1965	20.70	21.60	22.20
1966	23.00	25.60	23.90
1967	23.20	26.70	22.10
1968	24.10	27.60	24.10
1969	27.00	30.40	27.20
1970	29.50	35.20	25.70
1971	29.50	35.20	25.70
1972	36.80	42.00	28.80
1973	43.00	53.90	33.80
1974	39.20	44.30	36.80
1975	35.20	27.10	41.00
1976	36.10	34.00	47.30
1977 <sup>c</sup>	35.40	35.40	49.10

Source: Unpublished data tabulated by SRS at special request.

Note: Beef cattle includes cows, steers and heifers with allowances where necessary for slaughter bulls.  
Excluded are calves.

Calves includes only those steers and heifers identified as calves, generally animals weighting less than 500 pounds.

<sup>a</sup>Data year is November through October.

<sup>b</sup>1964 is November 1963 through October 1964.

<sup>c</sup>Preliminary includes November 1976 through July 1977 only.

TABLE 9

Index of Weighted Average Prices Received by Farmers in  
11 Western States for Beef Cattle, Calves, and  
Lambs, 1964-1977; 1964-1968 Average Equal 100<sup>a</sup>

Year <sup>b</sup>	Beef Cattle	Calves	Lambs
1964	87	90	89
1965	94	87	99
1966	104	103	107
1967	105	108	98
1968	109	111	107
1969	123	123	121
1970	127	137	121
1971	134	142	115
1972	167	170	128
1973	195	218	151
1974	178	179	164
1975	160	109	183
1976	164	137	211
1977	161	143	219

<sup>a</sup>1964-1968 average=100; Beef Cattle=\$22.04, Calves=\$24.76,  
Lambs=\$22.44.

<sup>b</sup>Data year is November 1 through October 31.

APPENDIX C  
Part 1(c)

MULTIPLE FRAME SURVEY

Multiple Frame Cattle Survey, July 1977, Grazing Charges.  
The Multiple Frame Cattle Survey was designed to provide accurate estimates of the number of cattle on farms and ranches for 28 States. The six Western States of California, Colorado, Idaho, Montana, New Mexico, and Wyoming are included. The Multiple Frame Cattle Survey combines two approaches:

1. A list of cattle operators is developed in each State and stratified based upon cattle numbers. A random sample of names is then selected from each stratum within each State. Higher proportions of the names in the strata containing larger operations are selected than in strata containing smaller operations.

2. An independent land area sample (June Enumerative Survey) is used to measure the incompleteness of the list. The list is expanded to include each operator who has an agricultural operation in the land area sample but was not on the list.

Data from the list frame and area frame are combined to make the State estimate for any item on the questionnaire.

This dual approach utilizes the advantage of both list and area sampling procedures. Combining list and area sampling is an effective and efficient sampling plan that does provide accurate cattle estimates.

The sample plan requires a report for every area tract and a very high proportion of the sample names selected from the list. Every farm or ranch operator who fails to return a mail questionnaire is contacted by telephone or personally interviewed by an enumerator. However, answering the question on charges for grazing cattle had to be voluntary because a person with no knowledge of grazing rates could not be expected to answer the question.

Characteristics of the list frame used for the cattle survey are:

1. A measure of size (usually peak number of cattle and calves) is associated with each name to allow stratification for more effective sample allocation.

2. Lists are as complete as possible but not all operations are on these lists. A continuing effort is made to keep the lists current and complete.

3. The selected sample unit is the name on the list. The reporting unit must be associated with the sampling unit.

Characteristics of the area frame:

1. The area frame sample is designed to be a complete sample with every agricultural operation having a chance of being in any sample selected.

2. The land area within each State is separated into strata which are based upon land use for most States.

3. The area frame sample is allocated heavily to strata with the most intensive agricultural land use.

4. The sampling unit is a small area of land (segment) averaging more than 1 square mile in the western half of the nation.

5. Individuals living inside the segment boundaries and having agricultural operations are considered resident farm operators. The grazing charge question was asked only of resident farm operators with cattle.

"Nonoverlap" procedures determine those operations in the area frame that are not on the list frame. This procedure involves: (1) matching all tract operator names in the area sample with the names on the list frame; (2) collecting data for the "nonoverlap" tract operators; and (3) combining it with the list sample data.

In the six States, 8,000 listed farm operators with cattle were interviewed. Of the 8,000 names listed, 2,652 (33.2 percent) had positive responses to the question on grazing charges. One hundred ninety-six nonoverlap resident farm operators with cattle responded to the locality grazing charge questions.

Table 10 lists the average grazing rate for each State and the weighted average rate. Averages are based upon expanded numbers (individual reports multiplied by appropriate expansion factor), and cannot be derived by dividing number of reports into sample sum of the reports. The average is weighted by expansion factors (which are the reciprocal of the probability of selection).

TABLE 10

Cattle Multiple Frame  
Grazing Rates and Counts by State, July 1977

<u>State</u>	Average charge per head <u>per month</u>	<u>Total</u>	<u>List Names</u>	
			<u>Positive Responses</u>	<u>Nonoverlap Positive Responses</u>
California	\$8.61	1,679	428	59
Colorado	6.98	1,523	498	55
Idaho	6.74	1,271	233	35
Montana	8.55	1,334	692	11
New Mexico	5.67	1,205	319	25
Wyoming	<u>7.98</u>	<u>988</u>	<u>482</u>	<u>11</u>
Total	7.6146 <sup>a</sup>	8,000	2,652	196

<sup>a</sup>Weighted average.

APPENDIX C  
Part 1(d)

JUNE ENUMERATIVE SURVEY  
PRIVATE GRAZING LAND LEASE RATES  
DEVELOPED BY THE STATISTICAL REPORTING SERVICE

1977 June Enumerative Survey - Grazing Charge. The June Enumerative Survey (JES) provides a basis for estimating land use, crop acreages, livestock numbers, farm numbers, and farm labor. The 1977 JES was conducted from May 22 to June 3.

The JES is a probability survey utilizing an area frame and several specific lists of operators. The area sampling involves subdividing the entire area within each State into small area sampling units, called segments, and selecting a sample of these segments to be personally enumerated with trained interviewers.

In all of the 11 Western States the sample frame has been stratified on land use. The basic land use strata are cultivated land, cities and towns, nonagricultural, and range or marginal agriculture. Segment sizes and sampling rates vary by strata. City and towns have small segments and relatively few are selected. Segments in cultivated strata are usually about 1 square mile and are selected at the highest rate. Segments in range strata are more than one square mile in size.

To improve the precision of the indications obtained from the area frame survey, the sample also includes additional indexes selected for a list of Extreme Operators. Producers must have a minimum number of head of livestock to be included in this classification. The minimum number of head for qualification in this classification will vary from State to State.

In the 1977 JES sample for the Western States 3,491 resident operators with cattle in the area segments and 3,439 cattle operators were on the list. The enumerators asked questions about grazing charges of both operators living inside sample segments who had cattle and all cattle operators on the list. This made a total of 6,930 producers of cattle in the 11 Western States who were asked the question, "What is the average charge per head per month of pasture cattle in this area?" The following instructions to the enumerator are extracted from the Statistical Reporting Service, USDA, June 1977, Enumerator and Multiple Frame Survey, Interviewers Manual:

PURPOSE:

This section will determine the average charges farmers and ranchers pay for pasturing or grazing cattle on

NONIRRIGATED PRIVATE PERMANENT PASTURE OR GRAZING LAND.

We are interested in land rental specifically to graze cattle and no other livestock. If a person rents a farm which contains pasture, this land would be excluded unless the respondent has a separate per acre charge for the pasture. Land which has been irrigated at any time during the year is to be excluded as well as land rented on a per head or per acre basis to salvage a crop residue such as sugar beet tops, corn stubble, etc.

This question was asked of the 6,930 operators who were qualified to answer the question, but they were not required to answer. Presumably the primary reason for a failure to answer the question would be the operators' feelings concerning inadequate knowledge of grazing rates under the circumstances specified to provide a sound response. Responses on the question were received from 1,777 operators (table 11).

TABLE 11

June Enumerative Survey, Positive Counts and Grazing Rates Reported

State	Positive Counts	Rates
Arizona	36	4.28
California	332	8.88
Colorado	267	7.10
Idaho	111	6.80
Montana	199	8.64
Nevada	12	2.83
New Mexico	122	5.38
Oregon	277	7.02
Utah	74	4.90
Washington	236	6.89
Wyoming	<u>111</u>	<u>7.67</u>
Total count	1,777	
Weighted average		7.29

1977 June Enumerative Survey - Weighted Rate Questions. The 1977 Enumerative Survey included four questions related to the actual experience of the operator in renting grazing land. Resident farm operators with cattle operations were asked, "Do you or will you rent pasture or pay a fee to pasture cattle in 1977?" Those who give an affirmative response were then asked the following questions:

- "Is this on a per head per month basis?"
- "Is this on a per acre basis?"
- "How many head of cattle do you or will you have on this rental pasture, (number of head)?"
- "How many days will you have these cattle on this pasture (number of days)?"
- "What is the total rent paid for pasturing these cattle this year (dollars)?"

The potential respondents were directed to answer these questions relative to nonirrigated, privately owned grazing or pasture land. Three hundred and fifteen operators responded to this question in the 11 Western States. Based on the number of days, number of head and total dollars reported, the average charge per head per month was computed (table 12).

TABLE 12

Responses and Grazing Charges per  
Head per Month by State

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<u>State</u>	<u>Number of Responses</u>	<u>Charges per head per month</u>
Arizona	4	1.48
California	40	8.72
Colorado	45	8.16
Idaho	28	3.70
Montana	45	3.24
Nevada	8	1.88
New Mexico	36	4.23
Oregon	40	1.97
Utah	14	3.71
Washington	39	3.42
Wyoming	<u>16</u>	<u>7.20</u>
Total	315	Average 4.69

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These data do not serve all of the purposes intended. These data were expected to establish if the locality question (i.e., what is the charge in your area?) was biased by respondents without experience in renting land for grazing.

The data have sufficient unexplained variations to make it inadequate for determination of grazing charges or as measurement of respondent bias. In some cases, such as Arizona and Nevada, the number of responses is very low. The four Arizona and eight Nevada responses are 1.3 and 2.5 percent respectively of the total number of responses (315) in the 11 Western States. This is not necessarily unexpected since Arizona and Nevada have only 2.6 and 1.5 percent respectively, of the total number of livestock ranches and livestock farms in the 11 Western States (table 13).

TABLE 13

Number of Livestock Farms and Livestock  
Ranches in United States and 11 Western States

<u>State</u>	<u>Number of Livestock Ranches</u>	<u>Livestock Farm</u>	<u>Total</u>	<u>Percentage of</u>	
				<u>U.S.</u>	<u>11 Western States</u>
Arizona	1,006	712	1,718	0.3	2.6
California	4,334	4,954	9,288	1.4	14.0
Colorado	3,551	7,576	11,127	1.7	16.8
Idaho	992	5,771	6,763	1.0	10.2
Montana	4,243	7,139	11,382	1.8	17.2
Nevada	252	719	971	0.1	1.5
New Mexico	3,174	1,427	4,601	0.7	6.9
Oregon	1,802	4,127	5,929	0.9	8.9
Utah	1,066	3,038	4,104	0.6	6.2
Washington	956	4,030	4,986	0.8	7.5
Wyoming	<u>2,595</u>	<u>2,805</u>	<u>5,400</u>	<u>0.8</u>	<u>8.1</u>
11-State Total	23,971	42,298	66,269	10.2	100.0
U.S. Total	79,683	568,201	647,884	100.0	

Source: 1969 Census of Agriculture; Class 1-5 farms; livestock farms include all livestock but excludes poultry.

## APPENDIX C

### Part 2

#### 1966 WESTERN LIVESTOCK GRAZING SURVEY

##### Introduction

The Comptroller General's report of September 1958, transmitted to the Congress on September 24, 1959, recommended: "To eliminate present inconsistencies in charges for grazing on Government lands managed by different Federal agencies, and to obtain fair compensation for the use of these lands, we recommend that a joint study be undertaken with the objective of arriving at a uniform basis for establishing grazing fees."

Following the recommendation in the Comptroller General's report of 1958, correspondence between Congressman Aspinall and the Departments of Agriculture and Interior led to agreement that a more uniform approach to grazing fees was desirable. Congressman Aspinall requested that a joint study be undertaken and the resulting report be submitted to the House Committee on Interior and Insular Affairs. A three-man task force, consisting of representatives from the Departments of Agriculture, Defense, and Interior was assigned to consider, on an exploratory basis, broad guidelines for making an interdepartmental grazing fee study and to estimate its probable costs.

The task force met in July 1960, and developed a preliminary outline for a joint study. Further work was not carried on by the task force as, about that time, the Bureau of the Budget began a study covering the whole area of natural resource user charges. It was felt a grazing fee study should await completion of the BOB report.

Subsequently, the Departments concerned participated with the Bureau of the Budget in development of principles governing establishment of grazing fees embodied in the Natural Resources User Charges Study. The Departments of Agriculture and Interior, through the Forest Service and Bureau of Land Management, also initiated studies in cooperation with the Economic Research Service and State universities in the West to develop procedures for estimating the value of grazing use on Federal lands, and to determine the impact of fee adjustments.

With the issuance in 1964 of the Natural Resources User Charges Study, the task force was reactivated as an

Interdepartmental Grazing Committee. The committee was directed to consider the fee problem and recommend a uniform approach to the establishment of grazing fees on Federal lands.

Given the fee principles discussed above, the Interdepartmental Grazing Fee Committee made a comprehensive study of the resource management objectives, methods of allocating grazing use, and fee systems employed by nine Federal agencies. In this study the committee developed recommendations for a more consistent approach to fees.

Essentially, the Bureau of the Budget principles provide that fees should be related to market value. Either competitive bidding or appraisal procedures can be used to reflect market value. The committee's recommendations suggested that all agencies use one or the other of these methods. The committee's report further recommended that the Bureau of Land Management and Forest Service use appraisal procedures to establish grazing values and set fees.

The background studies carried out by the Economic Research Service, and several western universities developed a logical economic framework within which public land grazing values could be determined. They also contributed substantially to knowledge of the economics of range livestock production.

#### Western Livestock Grazing Survey

Background studies pointed out the need for a comprehensive survey to provide data needed to evaluate Forest Service and Bureau of Land Management grazing fee structures.

The Statistical Reporting Service, USDA, cooperated with FS and BLM to plan and carry out the data collection and compilation project. The survey was designed to provide data needed to estimate grazing values on some 98 National Forests and 48 BLM Districts in the 17 Western States. Some 10,000 individuals were interviewed in the survey to collect more than 14,000 questionnaires. These included FS and BLM grazing permittees, and ranchers who are not permittees but who lease private grazing lands. Information was obtained on the market value of grazing permits, lease rates on private grazing lands, and nonfee costs of using public and private lands.

Data collected and assembled by SRS for the two agencies were summarized to provide estimates of average values for various cost categories for cattle and sheep on both public allotments and private leases, along with the sampling error of these estimates for each National Forest, National Grassland,

and BLM District. The same questionnaire and survey techniques were used for permittees grazing livestock on BLM and FS-administered public lands and for lessees of private rangelands.

In setting up the study, there was strong belief that it might indicate a foundation for variable grazing fees, on the basis of one or more of the qualitative variables such as grazing capacity of the range, season of use, geographic area, or vegetative type. Independent analyses by BLM during 1967 identified that there were larger user-cost differences between ranchers within any categorical grouping than between the groups. For example, if grazing fees were set on the basis of season of use criteria, the resulting fee would be more inequitable to ranchers in that group than would a common fee for all groups. In essence, there was no statistical evidence in the study to support a variable fee.

The Arthur D. Little Company, Inc., was contracted in 1967 to make an independent statistical analysis of BLM and private grazing survey data. Results of the analysis supported previous findings.

In May 1968, a special interagency Grazing Fee Technical Committee was appointed to review findings to determine if the information in the 1966 Survey showed (1) any statistical difference between the costs of grazing on BLM and FS lands, and (2) if there was any basis for a variable fee. The Technical Fee Committee was chaired by Dr. Houseman, Director of Standards and Research Division, Statistical Reporting Service. Other members were from the Economic Research Service, Statistical Reporting Service.

Analyses by the Technical Committee indicated that:

1. Variation among individual allotments of grazing cost per animal unit month (AUM) was very large within every category studied, namely, ranching area, season of use, and size of permit or lease. The strongest relationship found was the tendency for grazing cost to decrease as the size of allotment increased. Other relationships might have existed but could not be firmly established because of large random variation in the data. The wide variation of grazing cost among individual allotments should be interpreted as a reflection of the actual situation and not as an indication of inaccurate data.

2. The overall average cost per AUM of grazing cattle was \$0.62 larger on FS land than on BLM land. This difference was statistically significant; but, when the cost data were adjusted for differences between agencies in the seasonal use of land and

differences in the distribution of AUMs by size of permit, the adjusted average cost for FS was only \$0.08 larger than the BLM adjusted average cost. This adjusted difference was not statistically significant. For sheep the unadjusted difference in grazing cost for FS was \$0.56 larger than BLM. Sheep grazing, with regard to time of year and size of permit, differed between BLM and FS land to such an extent that statistical adjustment of the grazing costs to a common pattern was not practical. The committee concluded there was no statistical support from the survey data for differential base fees between BLM and FS ranges.

3. Differences among ranching areas, as shown by the data, were not large enough in relation to the wide variation that existed within areas to provide a basis for recommending differential base fees among ranching areas.

4. Comparison of the cost of grazing on private land (including lease rate) with the cost of grazing on public land (excluding the grazing fee) showed an overall difference of \$1.60 per AUM for cattle. But, the average private lease was smaller, in terms of AUMs, than the average public permit. When the cost data for private land were adjusted to the distribution of AUMs by season of use and size of permit on public land, the difference dropped to \$1.26. The overall difference for sheep was \$1.15; after adjustment for season and size it was \$1.13. Because of the variation involved, the committee concluded that the grazing cost data did not provide a basis for establishing differential base fees between cattle and sheep.

5. As an overall average for cattle and sheep combined, it seemed appropriate to weight the two figures, \$1.26 and \$1.13, by the corresponding total number of cattle and sheep AUMs on public land. This gave \$1.23 with a standard error of \$0.09. The weighted average was not much less than \$1.26 because 80 percent of the AUMs were for cattle.

6. The committee regarded \$1.23 as the figure having the soundest basis in statistical evidence for purposes of establishing a base fee.

These conclusions provided the basis for establishing fair market value of grazing use on western public lands. "Fair market value" is defined as the difference between total costs of operating on private leased grazing lands and total nonfee costs of operating on National Forest System lands. These costs include lost animals, veterinary services, moving livestock to and from permitted areas, herding, salting and feeding, travel to and from permitted areas, water, horses, fence and water maintenance, development depreciation, and other miscellaneous costs. The private costs also include the private lease rates and are displayed in the following table.

TABLE 1

Summary of Public and Private Costs  
Per Animal Unit Month for Grazing  
in the Western States, 1966

Cost Items	Cattle		Sheep	
	Combined		Combined	
	Public Costs	Private Costs	Public Costs	Private Costs
	\$	\$	\$	\$
Lost Animals	.60	.37	.70	.65
Association Fee	.08	---	.04	---
Veterinary	.11	.13	.11	.11
Moving Livestock to & from	.24	.25	.42	.38
Herding	.46	.19	1.33	1.16
Salt and Feed	.56	.83	.55	.45
Travel to & from	.32	.25	.49	.43
Water	.08	.06	.15	.16
Horse	.16	.10	.16	.07
Fence Maintenance	.24	.25	.09	.15
Water Maintenance	.19	.15	.11	.09
Development Depreciation	.11	.03	.09	.02
Other Costs	.13	.14	.29	.22
Private Lease Rate	---	1.79	---	1.77
Total	3.28	4.54	4.53	5.66
Difference between private/public	1.26		\$1.13	
Combined cattle and sheep		\$1.23 <sup>a</sup>		

Source: Data developed by the Grazing Fees Technical Committee from analysis of 1966 survey data. Public costs are livestock operation costs on both Forest Service and BLM allotments. Private costs are livestock operation costs on leased private grazing land. Combined difference for cattle and sheep as weighted by AUMs of grazing by cattle and sheep on public land.

<sup>a</sup>\$1.23 per animal unit month (AUM) was established as the Fair Market Value (FMV) and base for the new fee schedule.

## APPENDIX C

### Part 3

#### COMPETITIVE BID DATA



APPENDIX C  
Part 3(a)

McGregor Range History

Public Land Order No. 1470, of August 21, 1957, withdrew 469,936.80 acres of public land in New Mexico from all forms of appropriation under the public land laws, including the mining and mineral-leasing laws and reserved them for use by the Department of the Army as a missile testing range (McGregor Range-Fort Bliss). This same public land order provided for withdrawal of 155,232.22 acres of nonpublic land as soon as title had been acquired by the United States. In addition to the corrections in legal descriptions, Public Land Order No. 1547, of November 7, 1957, withdrew 906.76 acres of public lands inadvertently omitted from the legal description in Public Land Order No. 1470. There is a total of 626,075.78 acres in McGregor Range. This total includes 18,991.36 acres of the Lincoln National Forest.

The grazing rights and the non-Federal lands (including base properties) within McGregor Range were acquired by the Department of the Army by condemnation proceedings, and the owners were paid by negotiated agreement or in accordance with court proceedings resulting from the condemnations that took place.

This purchase included compensation for range improvements as well as loss of grazing privileges and privately held water rights. (The Government's title to the water rights pertinent to the Sacramento River pipeline and Carrizo Springs area is explained in a letter dated January 13, 1965, from the Corps of Engineers to the Las Cruces District Manager.) In making these purchases the Army allowed, in each case, severance damages in an amount sufficient to enable the rancher to construct new fences on the line between McGregor Range and his holdings, private, State and Federal lands. As a result of these purchases, there are no base properties in the McGregor Range that can be used by ranchers to claim a "preference" for grazing use of the military property.

At the time of the withdrawal, the Department of Defense advised BLM that the McGregor Range would be closed to livestock grazing because of possible damage to ranchers and their livestock from the firing of missiles. Range riders were hired by the Army to patrol the area and keep livestock off of the Range. Even so, there was continuing and widespread grazing trespass on McGregor Range.

Because of the apparent lack of danger to livestock from missiles, the Department of the Army, on August 11, 1964,

requested BLM to handle grazing on the withdrawn lands. The authorization for such grazing use was to be conditioned on the preservation of the full military mission being conducted by Fort Bliss on the Range.

A Co-Use Grazing Memorandum of Understanding on the McGregor Range, New Mexico, was executed on March 18, 1966, in behalf of the Department of the Army and on September 9, 1966, by the Director of BLM, in behalf of the Department of the Interior. This memorandum of understanding contained special conditions under which grazing use on the missile range would be permitted. For example, the military requires that any entry onto McGregor Range be preceded by permission from the Commanding Officer at the Air Defense Center. Persons are allowed to remain on the range only during those hours and/or days for which permission has been granted. These restrictions preclude use by sheep and accompanying shearers. In addition, all grazing use is subject to a short-term cancellation should military purposes require.

The lands involved in the memorandum of understanding, including both acquired and withdrawn public domain, are not subject to the provisions of the Taylor Grazing Act relating to Section 3 licenses or permits and Section 15 leases. Forage on the McGregor Range is disposed of under the provisions of the Material Disposal Act of July 31, 1947, as amended, 30 USC 601 (1964). This act requires sale of the forage at public auction without geographic limitations to bidders. The sale of forage in this manner is consistent with Army policy regarding disposal of resources on lands under its control.

McGregor Range is a solid block of land on which BLM can manage the forage to protect the vegetative and soil resource on a sustained yield basis. Based on annual precipitation and other resource information, grazing use is controlled in each unit by regulating the season and/or number of livestock. Because the government owns all the land and the range improvements, including the water, no livestock operator has any vested interests within McGregor Range.

The BLM inventoried the old range improvements, which consisted of fences and pipelines and, as rapidly as they could be repaired, the various units were opened to grazing. In 1967, BLM opened two units for grazing. Bids for grazing use on these units were \$1.00 and \$2.00 per AUM. Grazing was authorized for 5.5 months, from February to July. By 1969, 10 grazing units were open to competitive bidding. In 1972, grazing was authorized on these 10 units for varying periods ranging from 6 to 9 months, beginning in November or December and extending into 1973. Bids for these units came from as far away as Albuquerque and Clayton,

New Mexico, Borger, Texas (northeast of Amarilla), and Fort Stockton, Texas. Most bids have been received from south-central New Mexico and the El Paso area in Texas. Successful bids ranged from \$1.76 to \$3.60 per AUM and averaged \$2.51 per AUM.

The 12 units now open to grazing on McGregor Range vary in size from 8,000 to 39,000 acres and total 241,000 acres. In most cases, the grazing unit boundaries follow old allotment boundaries where advantage could be taken of existing fences. Seasons of use are set after considering forage plant requirements and resource needs. Wildlife winter ranges have been identified and are given consideration when establishing the grazing seasons. The number of AUMs' grazing use in each unit can vary from year to year depending on the amount of use BLM authorizes. A total of 4,425 cattle were authorized to use 37,017 AUMs during the 1976-1977 grazing season at an average bid of \$5.43 per AUM (Attachment No. 1).

## Attachment No. 1

McGregor Range Livestock Forage Grazing  
1976-77

Name and Address	Unit	Grazing Season	No. AUMs No. Cattle	Price/AUM & Total Bid
Frank Rhodes Rt. 1, Box 22 Hagerman, N.M. 88232	1	Oct. 23, 1976 June 25, 1977 (8.1 mo.)	2,025 AUMs 250 cattle	\$3.08/AUM \$6,237.00
Darr Angell Rt. 1 Hagerman, N.M. 88232	10	Oct. 16, 1976 June 11, 1977 (7.9 mo.)	1,966 AUMs 250 cattle	\$5.67/AUM \$11,147.22
Jim Miller Satanta, Kansas 67860	11	Oct. 16, 1976 June 11, 1977 (7.9 mo.)	4,523 AUMs 575 cattle	\$6.64/AUM \$30,032.72
Bill C. Haynes 1334 Santos Abilene, Texas 79605	12	Oct. 16, 1976 July 16, 1977 (9 mo.)	7,678 AUMs 850 cattle	\$6.75/AUM \$51,826.50
David M. Manahan Rt 3 Merkel, Texas 79536	13	Oct. 23, 1976 June 25, 1977 (8.1 mo.)	3,240 AUMs 400 cattle	\$6.41/AUM \$20,768.40
Floyd Goodloe 1000 E. 18th Roswell, N.M. 88201	14	Oct. 23, 1976 June 25, 1977 (8.1 mo.)	2,632 AUMs 325 cattle	\$5.5409/AUM \$14,583.84
Neal Caswell Rt 1 Anton, Texas 79313	15S	Oct. 30, 1976 July 2, 1977 (8.1 mo.)	2,430 AUMs 300 cattle	\$4.76/AUM \$11,566.80

## Attachment No. 1 (con.)

McGregor Range Livestock Forage Grazing  
1976-77

Name and Address	Unit	Grazing Season	No. AUMs No. Cattle	Price/AUM & Total Bid
Pete Caswell Rt 5 Lubbock, Texas 79407	15W	Oct. 30, 1976 July 2, 1977	1,620 AUMs 200 cattle	\$4.56/AUM \$7,387.20
Ford Ranch c/o Paul D. Levie P.O. Box 13528 Phoenix, Az 85002	16W	Oct. 16, 1976 July 16, 1977 (9 mo.)	3,161 AUMs 350 cattle	\$3.49/AUM \$11,031.89
A. C. Gruwell Box 930 Oracle, Arizona 85623	16S	Oct. 16, 1976 July 16, 1977 (9 mo.)(3-yr contract)	3,161 AUMs 350 cattle	\$3.66/AUM \$11,569.26
Buck Harvey P.O. Box 145 Encino, N.M. 88321	18	Oct. 16, 1976 June 11, 1977 (7.9 mo.)	2,556 AUMs 325 cattle	\$4.06/AUM \$10,377.36
Waverly Duggar Box 1 Dell City, Tx 79837	20	Oct. 30, 1976 July 2, 1977 (8.1 mo.)(3-yr contract)	2,025 AUMs 250 cattle	\$7.17/AUM \$14,519.25
Total AUMs	37,017		Average bid/AUM	\$5.43
Total Cattle	4,425		Total of all Bids	\$201,047.44

APPENDIX C  
Part 3(b)

FORT MEADE GRAZING LEASE AREA  
Sturgis, South Dakota

The Fort Meade Military Reservation was established for military purposes by Executive Order dated December 18, 1878. The lands and improvements were transferred to the Veterans Administration by Public Law No 346, approved June 22, 1944.

Initial grazing leasing was conducted by the Veterans Administration under competitive bidding procedures. In 1955, the administration of livestock grazing at Fort Meade was assumed by BLM. The allocation of livestock grazing continues under competitive bidding procedures.

From 1955 through 1972 the leased lands were situated in four separate fenced parcels located north and south of the Veterans Hospital. The four parcels consisted of 5,600 acres with 2,050 AUMs of authorized use. Starting with the 5-year leasing in 1973, the four parcels were combined into two parcels with cross fencing to facilitate intensive livestock grazing management procedures. These two tracts consist of 5,780 acres with 1,900 AUMs of authorized use between May 15 and October 15.

The following table displays the weighted average dollar per AUM from 1955 through 1977:

FORT MEADE GRAZING LEASE AREA

<u>Year</u>	<u>Acres</u>	<u>AUMS</u>	<u>S/AUM</u>
1955 through 1959	5,046	1,834	2.75
1960 1961 1962		Information not Available	
1963	5,647	2,057	3.88
1964 through 1968	5,574	2,046	4.17
1969 1970	5,574	2,046 Not Leased	4.20
1971 1972		Information Not Available	
1973 through 1977	5,780	1,900	8.23

APPENDIX C  
Part 3(c)

Soldier Creek Management Unit

Attached are copies of advertisement, bidding forms, instructions and conditions from a competitive bid for the Soldier Creek Management Unit located near Fort Robinson, Nebraska, administered by the Nebraska National Forest, Chadron, Nebraska, Forest Service, U.S. Department of Agriculture.

The Soldier Creek Management Unit contains 7,498 acres of usable grazing area. The Management Unit is divided into two pastures, each with a capacity of 1,000 AUMs for the grazing season, June 1, 1977 to October 31, 1977.

Bidding procedures provided for both sealed and oral bids. Conditions of sealed bidding included:

1. Bids could be submitted by individuals, partnerships, grazing associations, joint ventures, or corporations.
2. Livestock grazed must be owned by the successful bidder.
3. Bids must equal or exceed the minimum acceptable bid.
4. A bid deposit of 10 percent of the total amount of the bid must accompany the bid.
5. A sale is awarded to the bidder who submits the highest acceptable sealed bid or, when two or more sealed bids are received, made to the highest acceptable oral bid.

For the 1977 grazing season the sale was awarded to the highest acceptable oral bid for each pasture. The highest acceptable bids were \$14.25 per AUM for one pasture and \$13.50 per AUM for the other. There were four oral bidders for each pasture. (Note: Actual names of bidders were removed for this example and numbers substituted therefor.)

ISSUED BY:

Nebraska National Forest  
270 Pine Street  
Chadron, Nebraska 69337

SEALED BIDS IN ONE COPY, SUBJECT TO THE TERMS AND CONDITIONS SET FORTH HEREIN, FOR THE PURCHASE OF GRAZING PRIVILEGES LISTED IN THIS INVITATION, WILL BE RECEIVED UNTIL THE TIME, DATE, AND AT THE PLACE INDICATED BELOW, AND THEN PUBLICLY OPENED. ORAL AUCTION WILL FOLLOW SEALED BID OPENNING.

TIME OF OPENING: 2:00 P.M., LOCAL TIME AT PLACE OF BID OPENING

DATE OF OPENING: April 1, 1977

PLACE OF OPENING: SUPERVISOR'S OFFICE, NEBRASKA NATIONAL FOREST  
270 PINE STREET, CHADRON, NEBRASKA 69337

BID DEPOSIT OF 10% OF TOTAL AMOUNT OF BID IS REQUIRED. DEPOSIT MAY BE BY CERTIFIED CHECK, CHASHIER'S CHECK OR MONEY ORDER.

## ADVERTISEMENT

### SALE OF GRAZING PRIVILEGES OFFERED BY THE NEBRASKA NATIONAL FOREST

SEALED BIDS FOR GRAZING PRIVILEGES UNDER PERMIT AT THE SOLDIER CREEK MANAGEMENT UNIT WILL BE ACCEPTED AT THE FOREST SUPERVISOR'S OFFICE OF THE NEBRASKA NATIONAL FOREST, 270 PINE STREET, CHADRON, NEBRASKA 69337, UNTIL 2:00 p.m., LOCAL TIME, ON APRIL 1, 1977. A TOTAL OF 2,000 ANIMAL UNIT MONTHS ARE BEING OFFERED. 1/ THE MINIMUM ACCEPTABLE BID IS \$1.66 PER ANIMAL UNIT MONTH. ORAL AUCTION WILL IMMEDIATELY FOLLOW THE OPENING OF THE SEALED BIDS.

THE SOLDIER CREEK MANAGEMENT UNIT IS LOCATED APPROXIMATELY 61 MILES WEST OF FORT ROBINSON, SIOUX COUNTY, NEBRASKA. TOTAL USABLE AREA OPEN TO GRAZING CONSISTS OF 7,498 ACRES.

THIS SALE IS FOR ONE SEASON ONLY FOR THE PERIOD JUNE 1, 1977 THROUGH OCTOBER 31, 1977.

COPIES OF THE PROSPECTUS, BID FORMS, AND ANNUAL OPERATING PLAN MAY BE OBTAINED FROM DISTRICT RANGER PHIL JAMES, PINE RIDGE RANGER DISTRICT, 270 PINE STREET, CHADRON, NEBRASKA 66337, PHONE NUMBER 432-3367.

A DEPOSIT IN THE AMOUNT OF 10% OF THE BID MUST ACCOMPANY THE BID IN THE FORM OF CERTIFIED CHECK, CASHIER'S CHECK, OR MONEY ORDER.

1/ (400 COWS WITH CALF OR 572 YEARLINGS FOR 5 MONTHS OR A COMBINATION OF BOTH)

USDA - Forest Service  
Nebraska National Forest

Soldier Creek Management Unit

BID FOR GRAZING PRIVILEGES

Forest Supervisor  
Nebraska National Forest  
Chadron, NE 69337

Dear Sir:

In response to the notice of sale of grazing privileges under permit for a one season period beginning no sooner than June 1, 1977, and terminating not later than October 31, 1977, on the Soldier Creek Management Unit, bids to be opened at the Supervisor's Office at 2:00 p.m., local time, on the first day of April 1977. I (We) hereby submit the following bid (minimum acceptable bid is \$1.66 per AUM).

Area	Quantity	Unit	Rate	Total Bid
Northwest Pasture	1,000	Animal Unit Month (AUM)	\$ _____	\$ _____
Southeast Pasutre	1,000	Animal Unit Month (AUM)	\$ _____	\$ _____

An animal unit month (AUM) is defined as one cow with or without calf grazing one month. To be considered a calf, the animal must be less than 4 months of age upon entering the grazing area. A yearling is considered and counted as 7/10 that of a cow and is between 4 months and 24 months of age. The 2,000 AUM's will accommodate 400 cows or 572 yearlings for the 5-month season or a combination of both.

Enclosed is my (our) bid deposit in the amount of \$ \_\_\_\_\_ ( \_\_\_\_\_ dollars) of \_\_\_\_\_ (indicate whether cashier's or certified check, bank draft, or money order or Standard Form 24 - Bid Bond).

Sincerely,

\_\_\_\_\_  
Signature & Title (If applicable)

\_\_\_\_\_  
Address

INSTRUCTIONS AND CONDITIONS FOR SEALED BID AND ORAL AUCTION  
PROCEDURES

1. Inspection of Grazing Area. An inspection of the Soldier Creek Management Unit will be held on Friday, March 25, 1977. Interested parties should make reservations by contacting the District Ranger, Pine Ridge Ranger District, 270 Pine Street, Chadron, Nebraska, phone number 4323367. Those interested should meet at the above address at 10 a.m. Transportation will be provided.

2. Preparation of Offers. Sealed bids may be submitted by individuals, partnerships, grazing associations, joint ventures, or corporations. Joint ventures and partnership individual(s) having authority to sign for that firm. Evidence of authority must accompany the bids.

3. Submission of Offers. Enclose your completed and signed bid in a sealed envelope addressed to the Forest Supervisor, Nebraska National Forest, 270 Pine Street, Chadron, Nebraska 69337. Use attached Optional Form 17 and stick the lower half to your envelope. Telegraphic offers will not be accepted.

4. Modification or Withdrawal. Offers may be modified or withdrawn by written notice received prior to exact hour and date specified for receipt of offers. An offer also may be withdrawn in person by an offerer or his authorized representative, provided his identity is made known and he signs a receipt for the offer, but only if the withdrawal is made prior to the exact hour and date set for receipt of offers.

5. Late Offers and Modifications or Withdrawals. Offers and modifications of offers received at the office designated in the solicitation after the exact hour and date specified for receipt will not be considered.

6. Oral Auction. Oral auction will immediately follow the opening of the sealed bids if two or more satisfactory bids have been received. Auction procedures will be explained at the auction. The auction will be held at the place of sealed bid opening. Only those bidders who submitted satisfactory sealed bids may participate in the oral auction. A separate oral auction will be held for each of the two areas designated for grazing.

7. Award of Sale. Award will be made to the bidder who has either submitted the highest acceptable bid by sealed bid or, in the case where 2 or more sealed bids have been received, made to the highest acceptable oral bid. Award will be made for each of two areas designated for grazing.

8. Miscellaneous. By submission of this bid the bidder agrees to and understands the following:

(a) Successful bidder shall remit to the Forest Service, upon receipt of a Bill for Collection, payment for the grazing permit and a performance bond as required in the prospectus. Receipt and acceptance of these items will validate the permit and should be received at least 15 days prior to entering the grazing area.

(b) Livestock grazed must be owned by the successful bidder(s).

(c) Requirements of annual operating plan and grazing permit must be met.

(d) A grazing permit issued to successful bidder(s) may be modified or cancelled upon written notice to the existing permittee in accordance with Secretary of Agriculture Regulations 36 CFR 231.36.

## GRAZING USE PROSPECTUS

### SOLDIER CREEK MANAGEMENT UNIT NEBRASKA NATIONAL FOREST PINE RIDGE DISTRICT REGION TWO

#### INTRODUCTION

The Nebraska National Forest intends to sell grazing privileges on the Soldier Creek Management Unit. This prospectus is to furnish sufficient information to enable prospective bidders to decide whether further investigation of the offer of grazing privileges is warranted. This information is in addition to that contained in the published advertisement. INFORMATION GIVEN HERE OR OTHERWISE PROVIDED IS NOT A PART OF THE PERMIT UNLESS STATED THEREIN. DETAILED CONDITIONS OF THE PERMIT ARE CONTAINED IN THE SAMPLE TEMPORARY GRAZING PERMIT AND ANNUAL OPERATING PLAN. IN THE EVENT A CONTRADICTION EXISTS BETWEEN THIS PROSPECTUS AND THE SAMPLE PERMIT, THE PERMIT GOVERNS. GRAZING PERMIT, FORM 2200-10, WILL BE USED. The grazing unit area and sample permit should be inspected before submitting a bid. Further information may be obtained at the Forest Service office named in the attached advertisement.

Bidding. This is a Sealed bid followed by oral auction.

Bids must be submitted on prepared forms which may be obtained from the Forest Service office listed in the advertisement. These forms include instructions for both sealed and oral bid as well as for submission of the bid deposit. Bids will be accepted from individuals, partnerships, grazing associations, joint ventures or corporations. Bids may be submitted for either the northwest pas ture (1,000 AUM's), the southeast pasture (1,000 AUM's) or both the northwest and southeast pastures (2,000 AUM's).

Location and Area. Refer to the grazing unit map attached to the sample grazing permit for legal subdivisions and location of area to be grazed, number and type of animals, season of permitted use, and total animal months permitted.

The Following General Location and Access Routes Do Not Supersede the Grazing Unit Map or Sample Grazing Permit:

The Soldier Creek Unit is located approximately 61 miles west of Fort Robinson, Sioux County, Nebraska. It is located approxi mately onehalf mile north of Highway 20. The only public access is by gravel and dirt road from the east across from Fort Robinson to the corrals on the east boundary of the Soldier Creek Management Unit.

Description of Vegetation and Range Improvements. The quality, area and carrying capacity of the vegetation are estimates based on detailed range environmental analysis information on file and avail able for inspection at the Forest Service office listed in the advertisement.

The area is similar in vegetative composition to other areas of landownership in the Pine Ridge.

Primary forage species include:

<u>Common Name</u>	<u>Scientific Name</u>
Wheatgrass	Agropyron
Bluestem	Andropogan
Needle-and-thread	Stipa comata
Blue grama	Bouteloua gracilis
Bluegrass	Poa
Sedge	Carex

The minimum range improvements necessary to contain the cattle in the unit are in place. The condition of the fences is fair. A certain amount of maintenance will be necessary in order to use the improvements. The main improvements consist of exterior boundary fence (15.7 miles), interior division fences

(12 miles) which divide the unit into four pastures approximately the same size, two wells and windmills with tank installations and a set of corrals. More detailed information on the range improvements is available in the Forest Service office listed in the attached advertisement.

Range Capacity and Rates. See attached bid form. THE MINIMUM ACCEPTABLE BID RATE IS STATED IN THE ATTACHED ADVERTISEMENT AND BID FORM. This rate has been established using pricing procedures approved and currently in effect by the Forest Service.

The total grazing capacity available is 2,000 AUM's. An AUM is defined as the amount of feed required by one mature cow with calf. A factor of .7 will be used to convert AUM's to yearling months, i.e., one yearling is equal to .7 of a cow with calf. A yearling is any animal over four months and under twenty-four months of age.

Period of Grazing. The grazing season shall be June 1, 1977 through October 31, 1977. The grazing permit termination date is October 31, 1977. The grazing permit is not subject to extension. All livestock must be removed from the unit prior to 5:00 p.m., October 31, 1977.

Payments. Payment of bid amount will be required at least 15 days before the opening date of the grazing season. A Bill for Collection will be issued prior to the grazing season. Payment will validate the permit for the number, kind of livestock and period of use. No refund shall be allowed in the event of nonuse for personal convenience.

Performance Bond. A performance bond shall be required in accordance with the general provisions and requirements, clause 8(b) on the reverse side of the grazing permit. The bond is to insure payment for all damages sustained by the United States through the permittee's failure to comply with the provisions and requirements of this permit for the regulations of the Secretary on which it is based. The performance bond may be used to provide all necessary services for management of livestock and maintenance of range improvements as required in the Annual Operating Plan in the event of the permittee's failure to meet the minimum requirement. The bond amount shall be a minimum of \$1,000 or 10 percent of the amount of the bid (rounded to the nearest \$100) whichever is greater.

SAMPLE OF USDA FOREST SERVICE FORM  
GRAZING PERMIT

Page 1 of Page 3

Permit Number

00-000

PART - 1

John Q. Public  
(Name of Permittee)

of

Box 7. Everywhere, USA  
(Post Office Address)

Hereinafter called the permittee, is hereby authorized to graze livestock owned by the permittee upon lands administered by the \_\_\_\_\_

Nebraska (check one) /X/ National Forest

/X/ National Grassland, under the following provisions and requirements:

1. Description of range. The animals shall be grazed upon the area delineated on the attached map dated February 1977 which is part of this permit (Strike out item or items not applicable).

2. The number and kind of livestock, kind of permit, period of use, and grazing allotment on which the livestock are permitted to graze are as follows, unless modified by the Forest Service in the Bill of Collection:

Livestock			Kind of Permit		Period of Use		Grazing Allotment
Number	Kind	Class	Term.	Temp.	From	To	
286	Cattle	Yerling	Temporary		6/1/77	10/31/77	Soldier Creek
							Management Unit
							Northwest Pasture
							(Same for South-east Pasture)
			or				
200	Cattle		Temporary		6/1/77	10/31/77	Soldier Creek
							Management Unit
							Northwest Pasture
							(Same for South-east Pasture)

3. It is fully understood and agreed that this grazing permit may be revoked or suspended, in whole or in part, for failure to comply with any of the provisions and requirements specified in Parts 1, 2, and 3 hereof, or any of the regulations of the Secretary of Agriculture on which this permit is based, or the instructions of Forest officers issued thereunder; or for knowingly and willfully making a false statement or representation in the permittee's grazing application, and amendments thereto, or violation of, or failure to comply with Federal laws or regulations or State laws relating to protection of air, water, soil and vegetation, fish and wild life, and other environmental values when exercising the grazing use authorized by the permit.

I have reviewed and accept the terms of this permit.

Signature of Permittee or His Authorized Agent

Date

John Q. Public

Signature of Forest Supervisor

Title

Date

## GENERAL PROVISIONS AND REQUIREMENTS

1. Bill for Collection. Each year prior to the beginning of the grazing season, the Forest Supervisor will send the permittee a Bill for Collection specifying, for the current year, the kind, number and class of animals allowed to graze, the period of use, the grazing allotment, and the grazing fees. This bill, when paid, becomes part of this permit.
2. Payment of Fees. The permittee will deposit his payment for grazing fees with the designated Forest Service collection officer not later than the date specified in the Bill for Collection. The permittee will not allow his livestock on Forest Service administered lands unless the permit is validated by paying the fees specified in the Bill for Collection.
3. Validation of Permit. The issuance of a Bill for Collection and payment of fees and actual turning on of livestock will validate this permit for the number, kind and class of livestock, grazing allotment, and period of use for the particular year.
4. Tenure of Permit.
  - (a) The TERM portion of this permit is effective until \_\_\_\_\_, \_\_\_\_\_, unless waived, cancelled, revoked, or otherwise terminated as provided herein. It provides its holder to a priority for its renewal at the expiration of this term permit period subject to modifications deemed necessary by the Forest Service.
  - (b) The TEMPORARY portion of this permit terminates with the period of use specified herein unless it is extended in whole or in part by the Forest Supervisor. Extension may be made by issuance and payment of a Bill for Collection.
5. Ownership requirement. Only livestock owned by the permittee are authorized to graze under this permit. The permittee will furnish all evidence of ownership requested by the Forest Service. Permitted livestock purchased and subsequently sold back to the original owner within a 24-month period without prior written approval by the Forest Supervisor will not be considered valid ownership of the livestock

6. Range and Livestock Management.

- (a) The permittee will carry out the provisions of the allotment management plan currently in effect for the allotment and/or other instructions issued by the Forest officer in charge for the area under permit, and will require his employees, agents, and contractors and subcontractors to do likewise.
- (b) The number, kind and class of livestock, period of use, and grazing allotment specified in the permit or Bill for Collection may be adjusted when determined by the Forest Supervisor to be needed for resource protection. Except in extreme emergencies where resource conditions are being seriously affected by livestock use, or other factors such as fire, drought, or insect damage, notice of a scheduled reduction of numbers of livestock or period of use under a term permit will be given one(1) full year before a reduction in permitted numbers or period of use becomes effective. This does not apply to annual adjustment in grazing as provided for in Section 6(c).
- (c) When in the judgment of the Forest officer in charge, the forage is not ready to be grazed at the beginning of the designated grazing season, the permittee, upon request of the Forest officer, will defer placing his livestock on the grazing allotment to avoid damage to the resources. The permittee will remove his livestock for Forest Service administered lands before the expiration of the designated grazing season upon request of the Forest officer in charge when, in his judgment, further grazing would damage the resources.
- (d) The permittee will allow only the numbers and kind of livestock permitted hereunder to graze upon Forest Service administered lands described in Part 1 hereof during the period specified in the Bill for Collection including any modifications made as provided for in Section 6(c). He will not allow his livestock to intrude on any other areas of Forest Service administered lands.

- (e) The Forest Supervisor may, at any time, place or fasten or require the permittee to place or fasten upon livestock covered by this permit appropriate marks or tags which will identify them as livestock permitted to graze on lands administered by the Forest Service. When requested by the Forest Supervisor the permittee will at any time during the permitted period of use, including entry and removal dates, gather his permitted livestock to enable an accurate count to be made thereof.
  - (f) Only livestock marked or branded as shown in the application upon which this permit is based, and as may be required under which this permit is based, and as may be required under Section 6(e), will be allowed to graze under this permit unless the permittee has advance written approval from the Forest Supervisor to do otherwise.
  - (g) The permittee will pay the cost of perform, or otherwise provide for, his proportionate share of cooperative improvements and management practices on the permitted area when determined by the Forest Supervisor that such improvements and practices are essential to proper protection and management of the resources administered by the Forest Service.
  - (h) Maintenance of improvements. This permit is issued and accepted with the provision that the permittee will maintain all range improvements, whether private or Government owned, which are assigned to him for maintenance, to standards of repair, orderliness, and safety acceptable to the Forest Service. The Government may maintain or otherwise improve said improvements when in its opinion such action will be to its advantage.
7. Protection. The permittee, his agents and employees, when action within the scope of their employment, and his contractors and sub-contractors will protect the land and property of the United States, waived private land and other land under jurisdiction of the Forest Service covered by and used in conjunction with this permit. Protection will include taking all reasonable precautions to prevent, make diligent efforts to suppress and report promptly all fires on or endangering such land and property. He will pay the United States for any damage to its land or property including range improvements resulting from his negligence or from violation of the provisions and requirements of this permit or any law or regulation applicable to the National Forest or National Grass lands by the permittee.

8. General.

- (a) The Forest Supervisor may at any time require the permittee to give good and sufficient bond to insure payment for all damage, or costs to prevent or mitigate damages sustained by the United States through the permittee's failure to comply with the provisions and requirements of this permit or the regulations of the Secretary on which it is based.
- (b) This permit will terminate whenever the area described in this permit is withdrawn from the National Forest or National Grassland by land exchange, modification of boundaries or otherwise, or whenever the area described in this permit is needed by the Government for some other form of use.
- (c) The permittee will immediately notify the Forest Supervisor of any change in his control of his base property, ownership of livestock, or other qualifications or requirements which will affect his eligibility to hold this grazing permit.
- (d) The permanent improvements constructed, or existing for use, in conjunction with this permit are the property of the United States Government, unless specifically designated otherwise, or covered by a cooperative agreement. They will not be removed, nor compensated for upon termination or revocation of this permit.
- (e) This permit shall not be transferred or assigned in whole or in part.
- (f) This permit includes the requirements and provisions of Part 3 hereof, consisting of pages 3 which follow.
- (g) The annual operating plan is hereby attached to and made a part of this permit.

SAMPLE GRAZING PERMIT	Permit Number
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### Special Provisions and Requirements

Management Practice. (list the specific management practices required of the permittee, such as salting, riding, and movement of cattle, herding or beeding of sheep; or incorporate into the permit the specific allotment management plan or other document which outlines these practices in detail.)

1. For each head of livestock actually grazed under this permit, the permittee shall place on the range covered hereby for the period specified the required quantity of salt per month. This salt and such additional quantities as the permittee may wish to place upon the range shall be distributed at such times and places as may be consultation with the permittee.
2. All livestock must be counted when they enter the Forest unless the count is expressly waived by the District Ranger. At least five days' notice must be given the District Ranger of the date it is desired to turn livestock on the Forest. The permittee will inform the Forest Officer of the date and number of livestock that will enter the Forest and if called upon to do so will provide for having the animals counted before they enter the Forest and at any time during the life of this permit.
3. Any animals covered by this permit, which die, must be buried at least 100 yards from live water or as far as practicable when terrain makes that distance impossible and buried within 24 hours after discovery. All animals which die as result of contagious or infectious disease will be promptly reported to the Forest Service.
4. This permit is issued and accepted with the understanding that the permittee will perform any necessary current maintenance of minor character on all range improvements, whether private or Government owned, within the range allotted to him and from which he derives a benefit.
5. The permittee shall provide the riding needed to properly manage the livestock. A minimum of once per week is considered to be the amount necessary to keep the animals distributed commensurate with the forage areas they are using.

## ANNUAL OPERATING PLAN

1. INTRODUCTION - This plan outlines the procedures for management that will be followed during the current grazing season. No changes may be made by the permittee in the operating plan without prior approval of the Pine Ridge District Ranger.

STOCKING - The northwest pasture will be stocked with 286 head of yearling cattle or 200 head of cows with calves, or a combination of both not to exceed 1,000 AUM's. The southeast pasture will be stocked in the same manner. A yearling will be considered any animal 4 to 24 months of age. The season of use shall be five months to begin no earlier than June 1. The actual dates shall be determined by the District Ranger and the permittee. The Bill for Collection will validate the actual period of use this year.

MANAGEMENT SYSTEM - The management system for this year shall be grazed. Pasture numbers and approximate in and out dates are as follows:

<u>Pasture</u>	<u>Number</u>		<u>Date In</u>	<u>Date Out</u>	<u>AUM's</u>
	<u>Yearlings</u>	<u>Cows</u>			
NW	286	200	6/1	10/31	1,000
SE	286	200	6/1	10/31	1,000

A combination of cows and yearlings may be permitted. See example at end of this plan.

RANGE IMPROVEMENTS - Normal maintenance of fences (exterior boundary and interior division) shall be accomplished by the permittee. Normal maintenance shall consist of tightening loose wires, replacing staples and replacing rotten posts when necessary to keep fence upright. Any extensive repairs needed will be referred to the Pine Ridge District Ranger. All maintenance shall be accomplished before cattle are turned into individual pastures. Maintenance of the windmills and tanks will be done by the permittee. Routine maintenance shall consist of checking all moving parts to see that they work freely, oiling head, checking tanks for leaks and shutting mills off in the fall. Spring facilities shall be cleaned out and working properly.

Abnormal or nonroutine maintenance shall be performed by the Forest Service. Questions concerning permittee's responsibilities should be referred to the Pine Ridge District Ranger.

Range Use Supervision. The permittee will be required to perform all normal management activities, i.e., riding, fly control, minor improvement maintenance, routine doctoring, etc., WITHOUT THE USE OF MORTORIZED VEHICLES. Emergency care requiring veterinary services may be approved in writing by the Forest Supervisor. See section on use of motorized vehicles.

Normal coordination of livestock management will be handled informally by the Forest Officer in charge and consideration will be given when situations arise beyond the permittee's control.

Notification of riding and salting needs will be given by the Forest officer in charge and the permittee will be expected to take the required action within a five (5) day period following notification. The performance bond as described in item 8 of the prospectus will be used to accomplish the necessary riding and salting if the permittee does not respond within the five (5) day period.

A. Livestock Identification.

All livestock shall be branded with the owner's brand. All livestock shall be filed with the Pine Ridge District Ranger prior to turning cattle onto the unit.

B. Counting Livestock.

Livestock will be counted into the unit at the time and place agreed upon between the permittee and the Pine Ridge District Ranger.

C. Livestock Distribution.

Cattle shall be kept distributed in relation to the amount of forage left in the pasture. The object is to obtain uniform use and yet disturb the animals as little as possible. Riding is an effective way to provide better distribution and proper range use. The permittee(s) will be required to provide the riding needed to properly manage the livestock. It is estimated that riding a minimum of once per week in the pastures containing cattle will be necessary.

D. Salting.

Salt is a valuable and flexible tool to distribute cattle into lightly-used forage areas. Salt shall be placed using pack horses at locations designated by the District Ranger. Minimum salt requirement is one ton of block salt in each pasture.

STOCKING GUIDELINE

(Numbers are applicable to either the Northwest Unit or Southeast Unit)

<u>IF YOU HAVE</u> <u>COWS</u>	<u>YOU CAN ALSO RUN</u> <u>YEARLINGS</u>
0	286
50	214
75	179
100	143
125	107
150	71
175	36
200	0

COPY OF APPLICABLE MAP(S) ATTACHED FOR  
EXACT IDENTIFICATION AND LOCATION PURPOSES

SEQUENCE OF ORAL BIDDING

Name of Pasture: Southeast Pasture  
No. of AUM's : 1,000

Starting Bid	\$4.00
Bidder #1	5.00
Bidder #2	10.00
Bidder #1	10.50
Bidder #3	11.00
Bidder #1	11.50
Bidder #3	11.75
Bidder #1	12.00
Bidder #3	12.25
Bidder #1	12.50
Bidder #3	12.75
Bidder #1	13.00
Bidder #4	13.50
Bidder #1	13.75
Bidder #4	14.00
Bidder #1	14.25

SEQUENCE OF ORAL BIDDING

Name of Pasture : Northwest Pasture  
No. of AUM's : 1,000

Starting Bid	\$ 4.00
Bidder #1	5.00
Bidder #2	10.00
Bidder #3	11.00
Bidder #4	12.00
Bidder #3	12.50
Bidder #4	12.75
Bidder #3	13.00
Bidder #4	13.25
Bidder #3	13.50

APPENDIX C

Part 4

SURVEY OF GRAZING FEES CHARGED ON STATE LANDS



APPENDIX C  
Part 4

SURVEY OF GRAZING FEES CHARGED ON STATE LANDS

Each of the Western States (except Nevada) has State public lands upon which they authorize livestock grazing and charge fees for that use. The States contacted by telephone, acres under grazing lease, number of AUMs of grazing, total dollars collected, and the dollar charge per AUM are displayed in table 1.

While each State has its own land use objectives, legal necessities, and grazing rental procedures, there are some common procedures. Advance payment of rental is required, rental charge is by the acre based upon carrying capacity data, prior lessee may have preference for renewal when lease expires, lessee maintains the improvements, leased lands are open to other uses such as recreation, hunting, and fishing, and grazing lease may be cancelled should the State desire the land for its own purposes.

Most State land agencies are legally obligated by State law to secure the maximum rental possible from use of State trust lands for the benefit of schools and other State institutions. Some States have completed, and others are in the process, of evaluating and auditing their grazing lease rental rates and procedures. New Mexico, in their annual report for the 1976 fiscal year stated on page 17: "All rentals on grazing leases have been doubled. This increase in the grazing fees was commenced five years ago and completed this year."

Idaho has completed its range resource inventory and classification program and is adjusting rentals on State grazing lands. They anticipate an average rate near \$4.00 per AUM when the adjustments are completed. Arizona's grazing lease revenues have doubled during the past 10 years. Oregon is in the process of revising their grazing rental system with an expected increase in rental rates.

North and South Dakota offer their grazing leases through public bidding with a minimum rental rate and this procedure is reflective in their higher per acre income. South Dakota collects approximately \$1.25 per acre from grazing use while Wyoming collects approximately \$0.25 per acre from grazing use. When grazing fees are determined by land board commissioners, or advisory boards, the local lessees might be expected to exert more influence over grazing fee rates than under competitive bidding procedures.

The simple average grazing fee for 12 states in 1977 was \$2.57 per AUM and the weighted average per AUM was \$1.79. The

spread for State school lands ranged from a high of \$3.00 in North and South Dakota to a low of \$0.82 per AUM in Arizona (table 1).

Table 1  
State Lands Grazing Fee Data - 1977

State	Total AUMs	Total Acres (000)	Total Dollars Collected (000)	Dollars Per Aum
Arizona	1,175,610 <sup>a</sup>	8,844.2	964.0 <sup>b</sup>	0.82
California	8,315 <sup>a</sup>	54.2	60.7 <sup>b</sup>	7.30 <sup>c</sup>
Colorado	640,000 <sup>a</sup>	2,700.0	1,600.0 <sup>b</sup>	2.50
Idaho	269,966 <sup>a</sup>	2,112.9	809.9	3.00 <sup>d</sup>
Montana	1,348,690 <sup>a</sup>	4,112.3	1,955.6	1.45 <sup>d</sup>
Nevada	None	2.0	None	....
New Mexico	920,000 <sup>a</sup>	9,200.0	2,134.9	2.32 <sup>a</sup>
Oregon	58,884	608.4	88.3	1.50
Wildlife Areas	21,166	....	77.7	3.67
Utah	179,808 <sup>a</sup>	3,021.6	294.9	1.64 <sup>d</sup>
Washington	177,665 <sup>a</sup>	1,200.0	350.0	1.97
Wyoming	721,218 <sup>a</sup>	3,642.2	901.5	1.25
North Dakota	106,400 <sup>a</sup>	202.5	319.2 <sup>b</sup>	3.00
South Dakota	<u>400,000</u>	<u>931.2</u>	<u>1,200.0</u>	<u>3.00</u>
Total	6,006,556	36,629.5	10,756.7	

12 States Simple Average = \$2.57 per AUM

12 States Weighted Average = \$1.79 per AUM

<sup>a</sup>Derived Data:

Arizona:  $\$964.0 \div \$0.82/\text{AUM} = 1,175,610 \text{ AUMs}$

California:  $\$60.7 \div \$7.30/\text{AUM} = 8,315 \text{ AUMs}$

Colorado:  $\$1,600.0 \div \$2.50/\text{AUM} = 640,000 \text{ AUMs}$

Idaho:  $\$809.9 \div \$3.00/\text{AUM} = 269,966 \text{ AUMs}$

Montana:  $\$1,955.6 \div \$1.45/\text{AUM} = 1,348,690 \text{ AUMs}$

New Mexico:  $9,200,000 \text{ Ac} \div 10(\text{Ac}/\text{AUM}) = 920,000 \text{ AUMs}$

$\$2,134,847 \div 920,000 \text{ AUMs} = \$2.32/\text{AUM}$

North Dakota:  $\$319.2 \div \$3.00/\text{AUM} = 106,400 \text{ AUMs}$

Utah:  $(\$1.51 \times 2/3) + (\$1.75 \times 1/3) = \text{Ave. weighted charge per AUM}$

$(1.06) + (0.58) = 1.64/\text{AUM}$

$294,886 \div \$1.64/\text{AUM} = 179,808 \text{ AUMs}$

Wyoming:  $\$901.5 \div \$1.25/\text{AUM} = 721,218 \text{ AUMs}$

<sup>b</sup>1976 FY Data.

<sup>c</sup>State Fish and Game Lands, average fee.

<sup>d</sup>Average rate.



## GLOSSARY

Act of June 4, 1897. Organic Act of June 4, 1897 (30 Stat. 34, 36, as supplemented; 16 U.S.C. 473). Provides legal authority for establishment and management of Forest Reserves (National Forests).

Act of April 24, 1950. Granger-Thye Act (64 Stat. 88; 16 U.S.C. 5801). Authorizes the Secretary of Agriculture to issue permits for the grazing of livestock for periods not to exceed 10 years and renewals upon such terms and conditions he may deem proper. Also provides legal status for the grazing advisory boards.

Adjudication. The apportionment of grazing use on public ranges among eligible applicants.

Allotment. An area of land where one or more individuals graze their livestock. It generally consists of Federal range-lands but may include parcels of private or State-owned lands. The number of livestock and season of use are stipulated for each allotment.

Animal month. A month's tenure upon the range by one animal of any class.

Animal unit. A standardized unit of measurement for range livestock which is equivalent to one cow or five sheep or five goats, all over 6 months of age.

Animal unit month. Used as a unit of measurement for grazing fees; does not represent an amount of feed which is always constant or equal in volume or nutritive value. While by definition it is enough feed to carry one animal unit month, this may vary from only a maintenance level to a growth level ration.

Arid. A term applied to regions where lack of sufficient precipitation limits the type, growth, and production of vegetation, usually under 10 inches of precipitation per year.

Bankhead - Jones Farm Tenant Act, Title III. Act of July 22, 1937 (50 Stat. 525; 7 U.S.C. 1011(d)). Authorized the acquisition of submarginal farm lands for the purpose of restoring the condition of the land. Provides for correction of maladjustments in land use and management for controlling soil erosion, reforestation, preserving natural resources, etc. Acquisition authority was repealed in 1962.

Base property. See Commensurate property.

Beef price index (BPI). An index of the weighted average annual price for beef cattle, excluding calves, for the 11-Western State area as compared with a specific base period equal to 100.

BLM district. An administrative subdivision of the Bureau of Land Management responsible for a specific geographic area of a State. A field office headed by a District Manager with a technical and administrative staff.

Bureau of Land Management (BLM). A Federal agency in the Department of the Interior created in 1946 by the reorganization of the General Land Office (1812) and the Grazing Service (1934).

Class of livestock. Kinds of domestic livestock grazing on a range, i.e., cattle, horses, sheep or goats, or a combination of these. May be broken down to greater detail such as cows with calves, yearlings, steers, ewes with lambs, etc.

Combined index (CI). An index produced by subtracting the PPI (Prices Paid Index) from the BPI (Beef Price Index)  $BPI - PPI = CI$ .

Commensurability. Capacity of a permittee's private ranch property to support permitted livestock during the period such livestock are off public lands.

Commensurate property. Ownership of land or livestock water which qualifies a person for a grazing preference on public land. "Base property."

Competitive bidding. A formalized procedure employed to provide equal opportunity to individuals and/or companies to engage in making a monetary offer for some prize or advantage. To sell Federal forage to the highest offer.

Contiguous. Being in actual contact; touching or adjoining.  
ELEVEN CONTIGUOUS WESTERN STATES: Washington, Oregon, California, Nevada, Idaho, Utah, Montana, Wyoming, Colorado, Arizona, and New Mexico.

Cow-calf operation. Breeding cows comprise most of the range herd with the weaned calves being sold. The emphasis is on production of weaned calves and not upon readying livestock for market.

Data year. The year, generally calendar, for which data is collected, or the period to which the data pertains. Example: November 1 through October 31 would be a data year. Data year usually precedes the fee year by 3, 6, or 9 months.

Fair market value (FMV). That value (\$1.23 per AUM) established by the Western Livestock Grazing Survey of 1966 and updated each year after 1968 to reflect current market values of forage as measured by the average monthly rate per head for pasturing cattle on privately owned land in the 11 Western States. As an example, the Forage Value Index for 1974 of 125 multiplied by \$1.23 per AUM (base) produces an FMV of \$1.54 per AUM for the 1974 fee year.

Fee year. The 12-month period covered by a fee charged by BLM and FS, March 1 through last day in February of the following year. The same grazing fee per AUM is charged during the fee year.

FLPMA of 1976. Federal Land Policy and Management Act of 1976, Public Law 94-579, 94th Congress (90 Stat. 2743). Established public land policy and provided for its administration, management, protection, development, and enhancement.

Forage. (n.) All browse and herbaceous growth available to livestock or wildlife on rangelands.

Forage value index (FVI). A derived index of the relative change in the previous year's average monthly rate per head for pasturing cattle on privately owned land in the 11-Western State area, using the base period of 1964-1968 (5 years) equals 100 (\$3.65 per AUM). As an example, for 1974 the 1973 average monthly rate per head for pasturing cattle on privately owned lands was \$4.57 per AUM; therefore, \$4.57 divided by \$3.65 (base) produces a Forage Value Index for 1974 of 125.

Measures the relative change, from the base period, in private grazing rates.

Forest Service (FS). A Federal agency in the Department of Agriculture established in 1905 by renaming the Bureau of Forestry.

Grasslands. Land on which grasses are the dominant plant cover.

Grazing. Consumption of native forage from range or pasture by livestock.

Grazing district. An administrative unit of Federal rangelands established by the Secretary of the Interior under authority of the Taylor Grazing Act of 1934.

Grazing fee. A charge, usually on a monthly basis, for grazing a specific kind of livestock.

Grazing fee year. For fee collection purposes, from March 1 through the last day in February the following year.

Grazing permit/license/lease. Official written permission to graze a specific number, kind, and class of livestock for a specified time period on a defined range area.

Grazing system. A systematic sequence of grazing use and nonuse of an allotment or pasture to reach identified objectives.

Habitat. The natural abode of a plant or animal, including all biotic, climatic, and edaphic factors affecting life.

Improvement. Used in a summary manner to describe investments in structures such as range fences, cattleguards, stock water developments, and land treatments such as plowing and reseeding. Structures and land treatment may also contribute to other resources besides grazing.

Improvement maintenance. To preserve or keep in serviceable condition the structures built to facilitate the use of Federal rangelands by livestock.

Index. A number used to express a ratio or show relative changes from a fixed point or base condition.

Isolated land. Land of one ownership enclosed within the boundaries of another ownership.

Lactating period. Time when livestock secrete milk for feeding of their young; "nursing" period.

Livestock. Domestic animals including beef cattle, sheep, goats, and horses kept or produced on farms or ranches.

National Advisory Board Council (NABC). A committee which consists of members of district (BLM) advisory boards who are selected to consider on a national basis, legislation, regulations, and policy with respect to advising the Secretary of the Interior on grazing management on public lands. NABC is no longer in existence.

Pastures. A grazing area enclosed and separated from other areas by a fence or natural barriers.

Permittee. A person who holds a permit to graze livestock on Federal lands.

Prices paid index (PPI). An index of prices paid by farmers for commodities and services, interest, taxes, and farm wages, as collected and published by the Statistical Reporting Service in Agricultural Prices, as compared to a specific base period equal to 100.

Prior use. Grazing use preceding a specified time such as the 5-year period immediately preceding June 28, 1934.

Private grazing land lease rate index (PGLIR). See Forage value index.

Privilege. The benefit or advantage enjoyed by a person or company beyond the common advantage of other citizens to graze livestock on Federal lands. May be created by permit, license, lease and/or agreement.

Public Land Law Review Commission (PLLRC). The Commission established by Public Law 88-606 on September 19, 1964, to study existing laws and procedures relating to the administration of Federal lands.

Public lands. As defined in Public Law 94-579, public lands means any land and interest in land owned by the United States within the States and administered by the Secretary of the Interior through the Bureau of Land Management. In common usage, public lands may refer to all Federal land no matter what agency has responsibility for its management.

Public participation. A procedure providing the opportunity for citizens as individuals or interest groups to review proposed Government procedures or information and offer their suggestions, comments, or criticisms.

Range. Embraces rangelands and also many forest lands which support an understory or periodic cover of herbaceous or shrubby vegetation amenable to certain range management principles or practices.

Range condition. A description of the current state and health of the range based on what it is naturally capable of producing.

Range forage index (RFI). See Forage value index.

Range improvement project. A structure or facility on the range such as developed springs, fences, cattleguards, reservoirs, and seedings.

Rangelands. Land on which the native vegetation is predominantly grasses, grass-like plants, forbs or shrubs suitable for grazing by livestock or wildlife.

Range user. Most commonly associated with an individual or organization having a permit to graze livestock on public lands.

Rolling 3-year average. A simple average of data for the preceding 3 years updated each year.

Semiarid. Usually land regions where the upper limit on average annual precipitation is as low as 15 inches.

Single fee. When the same grazing fee is charged per head per month for all lands under the administration of Forest Service or Bureau of Land Management.

Stocking rate. The area of land that has been allotted to each animal unit for the grazing period of the year. Usually expressed as a ratio of acres per AUM.

Stockwater development. New or improved livestock watering sources on the range such as well, pond, spring, together with storage and delivery system.

Summer range. Range that is accessible to livestock and normally grazed during the summer grazing season on a sustained yield basis.

Sustained use (Production). The continuation of livestock grazing at a uniform level while maintaining a healthy desired plant community.

Sustained yield. The continuation of a healthy desired plant community under proper use grazing.

Taylor Grazing Act of 1934 (TGA). Act of June 28, 1934, providing for administrative control of the public domain under the Department of the Interior. It conferred broad powers on

the Secretary of the Interior to do all things necessary for the preservation and use of the unreserved public lands of the United States.

Tenure. The act, right, or term of holding landed property.

Variable fee. A grazing fee based on local characteristics such as quality or quantity of forage, topography, distance between water sources, and season of grazing use. May also apply to class and age of grazing livestock in relationship to a base unit of one cow without calf.



## LIST OF ABBREVIATIONS

AFBF	- American Farm Bureau Federation
ANCA	- American National Cattlemen's Association
AUM	- animal unit month
BIA	- Bureau of Indian Affairs
BLM	- Bureau of Land Management
BOB	- Bureau of the Budget
BPI	- Beef Price Index
CI	- Combined Index
ERS	- Economic Research Service
FLPMA	- Federal Land Policy and Management Act
FMV	- Fair Market Value
FS	- Forest Service
FVI	- Forage Value Index
FWS	- Fish and Wildlife Service
GAO	- General Accounting Office
NABC	- National Advisory Board Council
NPS	- National Park Service
OMB	- Office of Management and Budget
PGLLRI	- Private Grazing Land Lease Rate Index
P.L.	- Public Law
PLLRC	- Public Land Law Review Commission
PPI	- Prices Paid Index
RFI	- Range Forage Index
SRS	- Statistical Reporting Service
USDA	- United States Department of Agriculture
USDOD	- United States Department of Defense
USDI	- United States Department of the Interior



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